

**IN THE UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF PENNSYLVANIA**

INFINITY COMPUTER PRODUCTS, INC.,

Plaintiff,

v.

TOSHIBA AMERICA BUSINESS  
SOLUTIONS, INC.,

Defendant.

CIVIL ACTION

NO. 2:12-cv-06796-NIQA  
(Lead Case)

**DEFENDANTS' OPENING CLAIM CONSTRUCTION BRIEF**

Defendants Toshiba America Business Solutions, Inc., Samsung Electronics America, Inc., Konica Minolta Business Solutions, U.S.A., Inc., Xerox Corporation, HP Inc.,<sup>1</sup> Ricoh USA, Inc.,<sup>2</sup> and Dell, Inc. (collectively, "Defendants") in these consolidated actions,<sup>3</sup> by and through their undersigned counsel, hereby submit their Opening Claim Construction Brief pursuant to the Court's July 5, 2018 Amended Scheduling Order.

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<sup>1</sup> The name of the Defendant in Action No. 2:12-cv-06805 was changed from Hewlett-Packard Company to HP Inc. effective October 31, 2015.

<sup>2</sup> The name of the Defendant in Action No. 2:12-cv-06807 was changed from Ricoh Americas Corporation to Ricoh USA, Inc. effective August 13, 2018.

<sup>3</sup> *Infinity Computer Prods., Inc. v. Toshiba Am. Bus. Sols., Inc.*, 2:12-cv-06796; *Infinity Computer Prods., Inc. v. Samsung Elecs. Am., Inc.*, 2:12-cv- 06798; *Infinity Computer Prods., Inc. v. Konica Minolta Bus. Sols., U.S.A., Inc.*, 2:12-cv-06802; *Infinity Computer Prods., Inc. v. Xerox Corp.*, 2:12-cv-06804; *Infinity Computer Prods., Inc. v. Hewlett-Packard Co.*, 2:12-cv-06805; *Infinity Computer Prods., Inc. v. Ricoh Ams. Corp.*, 2:12-cv-06807; and *Infinity Computer Prods., Inc. v. Dell, Inc.*, 2:12-cv- 06808.



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1	U.S. Patent No. 6,894,811 (with Reexamination Certificates C1-C3)	Infinity0037564-Infinity0037594
2	U.S. Patent No. 7,489,423 (with Reexamination Certificates C1-C3)	Infinity0037595-Infinity0037622
3	U.S. Patent No. 8,040,574 (with Reexamination Certificates C1 and C2)	Infinity0037623-Infinity0037646
4	U.S. Patent No. 8,294,915 (with Reexamination Certificates C1 and C2)	Infinity0037647-Infinity0037670
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8	Reexamination Control No. 90/009,902, Feb. 21, 2012 Amendment	Infinity0003340-Infinity0003345
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10	Reexamination Control No. 90/009,902, Mar. 13, 2012 Notice of Intent to Issue Ex Parte Reexamination Certificate	Infinity0003411-Infinity0003414
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36	U.S. Patent Application No. 08/669,056, Apr. 29, 2004 Amendment	Infinity0038051-Infinity0038076



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38	Reexamination Control Nos. 90/012,816, Dec. 30, 2013 Response to Final Office Action	Infinity0009402-Infinity0009428
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41	Reexamination Control Nos. 90/013,208, Apr. 13, 2015 Response to Final Office Action	Infinity0023215-Infinity0023232
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55	U.S. Patent Application No. 08/226,278, Nov. 6, 1995 Amendment	DefInf_00000100- DefInf_00000135
56	U.S. Patent Application No. 08/669,056, Oct. 20, 1999 Amendment	Infinity0037811-Infinity0037821
57	Plaintiff Infinity Computer Products, Inc.'s Disclosure of Asserted Claims and Infringement Contentions, Appendix A, served on Feb. 16, 2018	N/A
58	Reexamination Control No. 90/012,818, July 24, 2013 Amendment	Infinity0012225-Infinity0012239
59	A Dictionary of Computing (4th ed. 1997) (excerpts)	DefInf_00000427- DefInf_00000429
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61	U.S. Patent Application No. 08/669,056, Apr. 17, 2000 Amendment	Infinity0037830-Infinity0037848
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64	U.S. Patent Application No. 08/669,056, Jan. 14, 2005 Notice of Allowance	Infinity0038115-Infinity0038132
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68	Declaration of Ivan Zatkovich in Support of Plaintiff's Memorandum in Opposition to Defendants' Motion for Partial Summary Judgment on Pre-Issuance Damages and Absolute Intervening Rights in Case No. 2:12-cv-06796-NIQA (E.D. Pa.) Mar. 9, 2018 (Dkt. 79-12)	N/A



Exhibit	Description	Bates Numbers
69	Declaration of Dr. Marc E. Levitt in Support of Plaintiff's Memorandum in Opposition to Defendants' Motion for Partial Summary Judgment on Pre-Issuance Damages and Absolute Intervening Rights in Case No. 2:12-cv-06796-NIQA (E.D. Pa.) Mar. 9, 2018 (Dkt. 79-13)	N/A
70	Plaintiff Infinity's Response in Opposition to Defendants' Motion for Summary Judgment of Limitation on Pre-Issuance Damages and Absolute Intervening Rights in Case No. 18-463-LPS-CJB (D. Del.) Aug. 10, 2018 (Dkt. 120)	N/A
71	U.S. Patent Application No. 08/669,056 Nov. 11, 2004 Amendment	Infinity0038097-Infinity0038113



## I. INTRODUCTION

In April 1994, Bruce Nachman filed an application seeking patent protection for a specific concept. According to that patent application, he developed an electrical circuit—with resistors, transistors, transformers, switches, and other components configured in a particular manner—that could trick or “spoof” a facsimile machine into behaving as a printer or a scanner for a personal computer. As he conceded in his application, Mr. Nachman did not invent the use of a fax machine as a printer or scanner—that technology was already well known. Rather, Mr. Nachman believed his particular circuit permitted spoofing to be done more simply and cheaply than before. Mr. Nachman died in 1995, but his application issued as U.S. Patent No. 5,530,558 (“the ’558 patent”) on June 25, 1996. The claims of the ’558 patent are focused, and track the circuit that Mr. Nachman said he developed.

Plaintiff Infinity Computer Products, Inc. (“Plaintiff” or “Infinity”) chose not to assert the ’558 patent in this case. Rather, Infinity asserts 26 claims from four related patents based on posthumously-filed applications: U.S. Patent Nos. 6,894,811 (“the ’811 patent”) (Ex. 1);<sup>4</sup> 7,489,423 (“the ’423 patent”) (Ex. 2); 8,040,574 (“the ’574 patent”) (Ex. 3); and 8,294,915 (“the ’915 patent”) (Ex. 4) (collectively, “the Patents-in-Suit”). Each patent is entitled “Interface Circuit for Utilizing a Facsimile Coupled to a PC as a Scanner or Printer,” and names Mr. Nachman as the sole inventor. The claims of the Patents-in-Suit are much more vague than the ’558 patent claims, and only tangentially related to the circuit Mr. Nachman described as his invention.

It is the Court’s role to determine the proper construction of the claim terms, and to do so in the context of the intrinsic record for the Patents-in-Suit. Here, the Patents-in-Suit were prosecuted over many years and subject to multiple reexaminations by the U.S. Patent and

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<sup>4</sup> Unless otherwise indicated, references to “Ex. [XX]” refer to the exhibits attached to the Declaration of Jacob A. Snodgrass in Support of Defendants’ Opening Claim Construction Brief, filed herewith.



Trademark Office (“USPTO”). The ’811 patent, for example, issued only after an extraordinarily long nine-year prosecution at the USPTO. Both during prosecution and in a series of post-issuance *ex parte* reexaminations, Infinity avoided invalidating prior art only by amending the ’811 patent claims, and then further narrowing their meaning through argument. Infinity did the same during prosecution and reexaminations of the other asserted patents. Defendants ask the Court to construe the terms of these Patents-in-Suit consistent with how a person of ordinary skill in the art would understand them in light of Infinity’s various statements throughout this extensive record—*i.e.*, limited in scope, consistent with Mr. Nachman’s original concept.

For its part, Infinity wants the Court to ignore the claim construction process altogether. Infinity asserts that none of the terms need be construed—even terms Infinity explicitly defined in USPTO proceedings. Indeed, rather than offer constructions, Infinity instead asserts that every term at issue has an unexplained “plain and ordinary meaning” (Dkt. 108), but Infinity has refused to identify such meanings, notwithstanding the express requirement to do so under the Court’s Scheduling Order. Dkt. 62 at 6 (subsequently amended by Dkt. 96 & 110, requiring Infinity to explain “the ‘plain and ordinary meaning’ for each term identified by Defendants as requiring construction[.]”).<sup>5</sup>

It is black letter law that patent claims may not be defined one way before the USPTO and another way in litigation. By seeking to avoid construction of terms, Infinity plainly seeks to avoid all of its past representations to the USPTO about the scope of the claims, expand the patent claims beyond all recognition, and have a jury make infringement and invalidity findings without any guidance as to what the claims mean. There is no mystery about why Infinity has taken this approach. Infinity is trying to stretch Mr. Nachman’s facsimile machine spoofing concept to cover

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<sup>5</sup> In light of its violation of the Court’s Amended Scheduling Order, the Court should not consider any explanation by Infinity of the purported “plain and ordinary meaning” of any claim term.



the use of Defendants’ multi-function printers, so that Infinity can exact a toll on, essentially, the entire U.S. home and office printer industry. The Court should reject Infinity’s effort to bypass claim construction. It should either construe the disputed terms as Defendants propose, or hold the asserted claims indefinite and invalid.

## **II. APPLICABLE LAW**

### **A. Claim Construction**

“It is a bedrock principle of patent law that the claims of a patent define the invention to which the patentee is entitled the right to exclude.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc) (internal quotations and citation omitted). Claim construction is the process by which a court determines as a matter of law the meaning of the patent claims at issue. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 976 (Fed. Cir. 1995) (en banc); *Network, LLC v. Centraal Corp.*, 242 F.3d 1347, 1352 (Fed. Cir. 2001) (“The role [of claim construction] is neither to limit nor to broaden the claims, but to define, as a matter of law, the invention that has been patented.”). The goal of claim construction is to clarify the legal meaning of claim language for a jury. *Sulzer Textil A.G. v. Picanol N.V.*, 358 F.3d 1356, 1366 (Fed. Cir. 2004) (“[T]he district court must instruct the jury on the meanings to be attributed to all disputed terms in the claims in suit so that the jury will be able to intelligently determine the questions presented.”) (internal quotations omitted); *I/P Engine, Inc. v. AOL, Inc.*, 874 F. Supp. 2d 510, 523 (E.D. Va. 2012).

#### **1. The Intrinsic Evidence**

The collection of the claims, specification, and prosecution history (including prior art considered during examination) is called the “intrinsic evidence.” *V-Formation, Inc. v. Benetton Group SpA*, 401 F.3d 1307, 1311 (Fed. Cir. 2005). Intrinsic evidence is the most significant evidence in claim construction and often is dispositive of the issues. *Phillips*, 415 F.3d at 1329-30; *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996).



In construing the claims, the analysis should focus on the words of the claims themselves. *Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1116 (Fed. Cir. 2004) (“[A] claim construction analysis must begin and remain centered on the claim language itself.”). A court should generally give claim terms their “ordinary and customary meaning,” which is “the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention.” *Phillips*, 415 F.3d at 1312-13. This “person of ordinary skill in the art” is a legal construct and is “akin to the ‘reasonable person’ used as a reference in negligence determinations.” *In re Rouffet*, 149 F.3d 1350, 1357 (Fed. Cir. 1998).

The patent specification is critical to understanding the meaning of claim terms. “Usually it is dispositive; it is the single best guide to the meaning of a disputed term.” *Vitronics*, 90 F.3d at 1582; *see also Phillips*, 415 F.3d at 1315 (“The best source for understanding a technical term is the specification from which it arose, informed, as needed, by the prosecution history.”) (internal quotations and citation omitted); *Markman*, 52 F.3d at 979 (“Claims must be read in view of the specification”).

The patentee can disavow the full scope a claim term would otherwise have, either in the specification or during prosecution. *Hormone Research Found., Inc. v. Genentech, Inc.*, 904 F.2d 1558, 1563 (Fed. Cir. 1990) (“[A] patentee is free to be his own lexicographer.”); *Intellicall v. Phonometrics*, 952 F.2d 1384, 1388 (Fed. Cir. 1992) (same). This can be express or implicit. *Vitronics*, 90 F.3d at 1582 (citing *Markman*, 52 F.3d at 979).

[O]ur cases recognize that the specification may reveal a special definition given to a claim term by the patentee that differs from the meaning it would otherwise possess. In such cases, the inventor’s lexicography governs. In other cases, the specification may reveal an intentional disclaimer, or disavowal, of claim scope by the inventor. In that instance as well, the inventor has dictated the correct claim scope, and the inventor’s intention, as expressed in the specification, is regarded as dispositive.

*Phillips*, 415 F.3d at 1316 (citations omitted); *Teleflex, Inc. v. Ficosa N. Am. Corp.*, 299 F.3d 1313,



1327 (Fed. Cir. 2002) (an applicant can affect claim scope by “redefining the term or by characterizing the invention in the intrinsic record using words or expressions of manifest exclusion or restriction, representing a clear disavowal of claim scope”); *SciMed Life Svs., Inc. v. Advanced Cardiovascular Svs., Inc.*, 242 F.3d 1337, 1341 (Fed. Cir. 2001) (“Where the specification makes clear that the invention does not include a particular feature, that feature is deemed to be outside the reach of the claims of the patent, even though the language of the claims, read without reference to the specification, might be considered broad enough to encompass the feature in question.”).

A construing court must also consider a patent’s prosecution history. *Phillips*, 415 F.3d at 1317. This is the record of the proceedings before the USPTO, and it provides evidence of how the patent applicant and the USPTO understood the patent claims. *Id.* at 1317. “The prosecution history limits the interpretation of claim terms so as to exclude any interpretation that was disclaimed during prosecution.” *Southwall Techs., Inc. v. Cardinal IG Co.*, 54 F.3d 1570, 1576 (Fed. Cir. 1995) (citations omitted). The prosecution history is used to help “ensure[] that claims are not construed one way in order to obtain their allowance and in a different way against accused infringers.” *Chimie v. PPG Indus.*, 402 F.3d 1371, 1384 (Fed. Cir. 2005); *Omega Eng’g, Inc. v. Raytek Corp.*, 334 F.3d 1314, 1323-24 (Fed. Cir. 2003) (“The doctrine of prosecution disclaimer . . . preclude[s] patentees from recapturing through claim interpretation specific meanings disclaimed during prosecution[.]”).

## 2. The Extrinsic Evidence

All evidence other than the intrinsic evidence is “extrinsic evidence.” This includes dictionaries, treatises, and expert and inventor testimony. *Phillips*, 415 F.3d at 1318. Technical dictionaries in particular have been recognized as a useful claim construction tool because they “endeavor to collect the accepted meanings of terms used in various fields of science and



technology.” *Id.* at 1318. Courts should weigh “all the evidence bearing on claim construction . . . keep[ing] in mind the flaws inherent in each type of evidence and assess[ing] that evidence accordingly.” *Id.* at 1319. Extrinsic evidence is generally less reliable than intrinsic evidence and, accordingly, should not be considered if an analysis of the intrinsic evidence will resolve any ambiguity. *Id.* at 1320. A court should discount expert testimony that is clearly at odds with the written record of the patent. *Id.* at 1318.

While there are many tools to assist in claim construction, the Federal Circuit has stated:

Ultimately, the interpretation to be given a term can only be determined and confirmed with a full understanding of what the inventors actually invented and intended to envelop with the claim. The construction that stays true to the claim language and most naturally aligns with the patent’s description of the invention will be, in the end, the correct construction.

*Id.* at 1316 (quoting *Renishaw PLC v. Marposs Societa’ per Azioni*, 158 F.3d 1242, 1250 (Fed. Cir. 1998)).

### **3. The Court, Not the Jury, Must Resolve Claim Construction Disputes**

The Court alone is charged with construing the patent claims. *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 372 (1996). District courts are directed to resolve claim construction disputes and not to allow such issues to go to the jury. The Federal Circuit has declared that “[w]hen the parties raise an actual dispute regarding the proper scope of [the] claims, the court, not the jury, must resolve that dispute.” *O2 Micro Int’l Ltd. v. Beyond Innovation Tech. Co., Ltd.*, 521 F.3d 1351, 1362 (Fed. Cir. 2008). Thus, it is legal error to allow the parties’ respective experts to testify at trial about the meaning of the claims. *NobelBiz, Inc. v. Global Connect, L.L.C.*, 701 Fed. Appx. 994, 997 (Fed. Cir. 2017) (unpublished).

Similarly, deciding that a disputed claim term should be afforded its “plain and ordinary meaning” is legal error where reliance on a term’s plain and ordinary meaning does not resolve the parties’ dispute as to the scope of the term. *Eon Corp. IP Holdings v. Silver Spring Networks*,



815 F.3d 1314, 1319 (Fed. Cir. 2016); *see also Howmedica Osteonics Corp. v. Zimmer, Inc.*, 822 F.3d 1312, 1321 (Fed. Cir. 2016) (“[F]ocusing on a particular term’s plain and ordinary meaning may be inadequate, when relying on that meaning does not resolve the parties’ dispute. That is the case here.”) (internal citations omitted). District courts are not relieved of their obligation to construe claim terms even if those terms are familiar to a layperson. *See Clare v. Chrysler Group LLC*, 819 F.3d 1323, 1329 (Fed. Cir. 2016) (“Although [the words ‘external’ and ‘appearance’] may be readily apparent to a lay person there existed a fundamental dispute regarding the scope of those limitations.”); *see also Visicu, Inc. v. Imdsoft, Ltd.*, 2009 WL 1291330, at \*11 (E.D. Pa. May 7, 2009) (“[W]hile the Court may be tempted to give ‘continuously’ its ordinary meaning, the dispute is a matter of law that must be decided by the Court.”).

## **B. The Definiteness Requirement**

To be valid, a patent claim must “particularly point[] out and distinctly claim[] the subject matter which the applicant regards as his invention.” 35 U.S.C. § 112, ¶ 2.<sup>6</sup> This definiteness requirement serves the important function of ensuring that claims put the public on notice of the scope of the patent monopoly. *See, e.g., United Carbon Co. v. Binney & Smith Co.*, 317 U.S. 228, 236 (1942) (claims must “clearly circumscribe what is foreclosed from future enterprise”). If a patent claim fails to “inform those skilled in the art about the scope of the invention with reasonable certainty,” it is invalid as indefinite. *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2124 (2014). The indefiniteness analysis is “inextricably intertwined with claim construction.” *Cox Commc’ns, Inc. v. Sprint Commc’n Co. LP*, 838 F.3d 1224, 1232 (Fed. Cir. 2016). It is therefore appropriate to decide indefiniteness in connection with the claim construction process.

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<sup>6</sup> Citations to 35 U.S.C. § 112 refer to the version of that section prior to the enactment of the Leahy-Smith America Invents Act. *See* Pub. L. No. 112-29 (Sept. 16, 2011) (amendments to 35 U.S.C. § 112 do not apply to applications filed before September 16, 2012).



Indefiniteness must be established by clear and convincing evidence. *BASF Corp. v. Johnson Matthey Inc.*, 875 F.3d 1360, 1365 (Fed. Cir. 2017).

### III. BACKGROUND

#### A. The Subject Matter of the Patents-in-Suit

Each of the Patents-in-Suit relates to the concept of a facsimile machine interfacing with a personal computer so that the fax machine operates as a printer or a scanner. According to the “Background of the Invention” section of the Patents-in-Suit, when Mr. Nachman came up with his idea,<sup>7</sup> “[s]canning and printing devices especially adapted for use with PCs (i.e. personal computers) [were] relatively expensive devices.” Ex. 1 at 1:26-28. Mr. Nachman conceded that it was well known at the time to use a fax machine as a stand-in for a printer or scanner. *Id.* at 1:31-36. However, he asserted that existing ways of doing so were “complicated and expensive and typically require a microprocessor which further tends to increase both cost and circuit complexity.” *Id.* at 1:33-36. Thus, the stated “Object of the Invention” was:

to provide a circuit for interfacing a PC and a facsimile to enable the facsimile to be utilized as a scanner or a printer for a PC and to accomplish all of the objectives of a scanner or a printer ***in a simple straightforward manner through the use of a circuit of highly simplified design and low cost.***

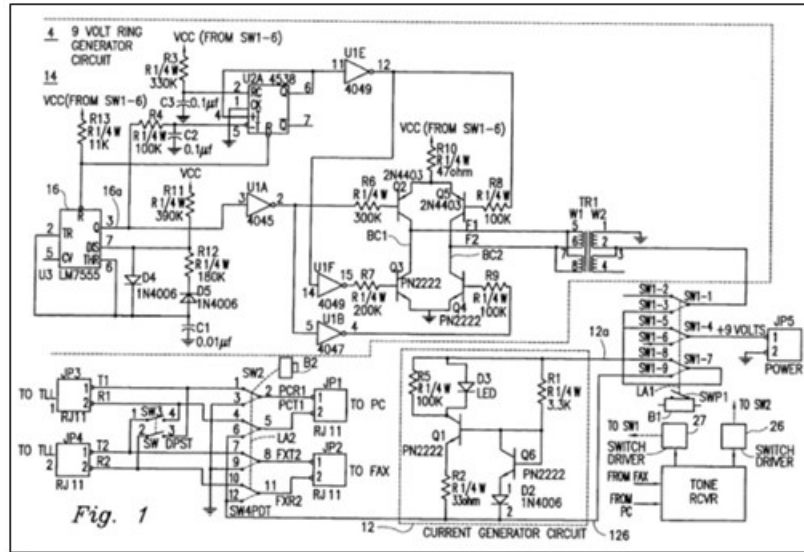
*Id.* at 1:37-44 (emphasis added).

The Patents-in-Suit purport to solve this problem through the use of a particular circuit, shown in Figure 1:

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<sup>7</sup> As noted below, the parties dispute the date to which the Patents-in-Suit are entitled for purposes of priority. The analysis in this brief is not affected by which date is found to control.

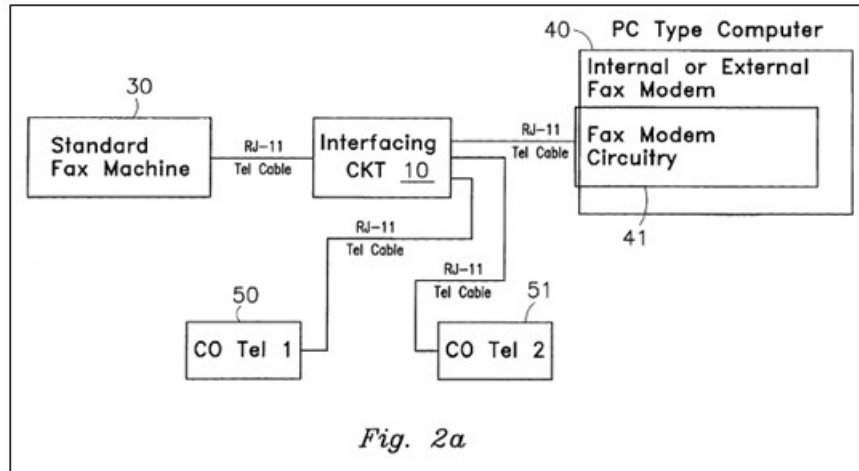




*Id.* at Fig. 1; *see also id.* at 2:43-44 (“FIG. 1 shows an interface circuit 10 embodying the principles of the present invention ...”). The Patents-in-Suit repeatedly reference the interface circuitry described above as “the present invention.” *See, e.g.,* Ex. 1 at 1:13-55, 2:30-49, 4:11-15, 4:25-26, 5:64-6:36, 8:50-59, 8:66-9:8. The Patents-in-Suit explain the interface circuit over a number of columns, describing the arrangement of the various resistors, transistors, transformers, diodes, switches, and jumpers. *Id.* at 2:44-4:24. The patents then describe how the fax machine performs as a scanner or a printer based on operation of this circuit.

The remainder of the specification describes “various system arrangements employing the circuitry of the present invention,” which are shown in the block diagrams of Figures 2a-2j. Ex. 1 at 2:36-38. In each arrangement, the system includes a “standard facsimile machine,” a computer, and the interface circuitry as shown in, for example, Figure 2a:





Ex. 1 at Fig. 2a.

All claims of the Patents-in-Suit are directed to a method of spoofing a “facsimile machine” to operate as a printer or a scanner. Although the inventor repeatedly referred to the interface circuitry described above as “the present invention,” the claims do not explicitly recite this circuitry. Rather, the claims recite steps such as “conditioning,” “arranging,” and “activating,” without reciting any particular actions or circuitry for carrying out these steps. Every claim requires a “passive link” between the facsimile machine and a computer as well as a “bi-directional” connection between these two devices. Of the claims asserted by Infinity, all but one require the use of “generic send/receive driver communications software” (or some similar term) to effectuate the printing or scanning by the facsimile machine. The only claim that does not require this type of software requires a step of “using an unmodified standard protocol” for shifting the personal computer to a connected mode for sending or receiving signals. *See* Ex. 1, claim 7. Many of the claims require that the signals transmitted between the facsimile machine and the computer be “digital” signals. Many of the claims also require that the signals be “facsimile” signals or that the data transmitted by the signals be in a “facsimile” format. Some of the claims explicitly require the step of “by-passing” or “isolating” the facsimile machine and the computer



from the public telephone network. Finally, some of the claims asserted by Infinity require the step of receiving an instruction “using a standard protocol of the facsimile machine.”

### **B. The Original Prosecution of the Patents-in-Suit**

On April 11, 1994, Bruce Nachman filed U.S. Patent Application No. 08/226,278 (“the ’278 application”), identifying himself as the sole inventor. While that application was pending, Mr. Nachman passed away. The ’278 application issued as the ’558 patent on June 25, 1996, and is entitled “Interface Circuit for Utilizing a Facsimile Coupled to a PC as a Scanner or Printer.”

The day before the ’558 patent issued, Marvin Nachman—Bruce’s father and the executor of his estate—filed U.S. Patent Application No. 08/669,056 (“the ’056 application”) with the USPTO. The ’056 application was a “continuation-in-part” of the ’278 application, which means part of the application contained the same subject matter in the ’278 application, but part contained new subject matter, comprised of five new figures and a description of the embodiments shown in them. *See* Ex. 1 at Figs. 2f-2j and 6:51- 8:29.<sup>8</sup> After nine years of prosecution before the USPTO, the ’056 application eventually issued on May 17, 2005 as the ’811 patent. Although filed nearly a year after his death and despite disclosing new subject matter, the ’811 patent names Bruce Nachman as the sole inventor.

Marvin Nachman and Infinity subsequently filed the applications that issued as the ’423, ’574, and ’915 patents.<sup>9</sup> The ’423, ’574, and ’915 patents are the product of divisional<sup>10</sup> and

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<sup>8</sup> Pin citations to patents take the form [column]:[line(s)] or [column]:[line]-[column]:[line]. Because the Patents-in-Suit each have the same specification, Defendants will often cite to the relevant figures and text as they appear in the ’811 patent.

<sup>9</sup> Marvin Nachman, in his capacity as executor, purported to assign the Patents-in-Suit to Infinity in June 2010. Defendants do not concede that Infinity is, in fact, the owner of the Patents-in-Suit.

<sup>10</sup> *See* Manual of Patent Examining Procedure (“MPEP”) § 201.06 (“A later application for an independent or distinct invention, carved out of a nonprovisional application ... and disclosing and claiming only subject matter disclosed in the earlier or parent application, is known as a divisional application.”).



continuation<sup>11</sup> applications relating back to the '811 patent, and the Patents-in-Suit all share the same specification text and figures set forth in the '811 patent. Like the '558 patent, all the Patents-in-Suit are entitled "Interface Circuit for Utilizing a Facsimile Coupled to a PC as a Scanner or Printer" or similar. Below, in chart form, is a summary of the prosecution of the '558 patent and the Patents-in-Suit:

Patent No.	Date Filed	Application No.	Date Issued	Date Expired	Reexamination Certificates Issued	Patent-in-Suit?
'558	4/11/94	08/226,278	6/25/96	4/11/14	None	NO
'811	6/24/96	08/669,056 (continuation-in-part of '558 patent)	5/17/05 <sup>12</sup>	4/11/14	<ul style="list-style-type: none"> <li>• Cert. 7/31/12 (90/009,901) (amending all claims)</li> <li>• Cert. 3/25/14 (90/012,816)</li> <li>• Cert. 9/20/16 (09/013,208)</li> </ul>	YES
'423	3/19/05	11/084,297 (divisional of '811 patent)	2/10/09	1/13/16	<ul style="list-style-type: none"> <li>• Cert. 5/1/12 (90/009,902) (amending all claims)</li> <li>• Cert. 4/9/14 (90/012,815)</li> <li>• Cert. 9/19/16 (90/013,207)</li> </ul>	YES
'574	2/9/09	12/332,908 (continuation of '423 patent)	10/18/11	1/23/15	<ul style="list-style-type: none"> <li>• Cert. 3/17/14 (90/012,817) (amending all claims)</li> <li>• Cert. 9/19/16 (90/013,209)</li> </ul>	YES
'915	10/14/11	13/317,310 (continuation of '574 patent)	10/23/12	4/11/14	<ul style="list-style-type: none"> <li>• Cert. 3/21/14 (90/012,818) (cancelling claims 5 &amp; 13, and amending all remaining claims)</li> <li>• Cert. 10/25/16 (90/013,210)</li> </ul>	YES

### C. Commencement of Litigation and Reexamination of the Patents-in-Suit

On June 30, 2010, Infinity filed a lawsuit in this Court against fifteen defendants—a group that included every major company in the home and office printer industry in the United States—alleging infringement of the '423 and '811 patents.

Subsequently, both the '811 and '423 patents were submitted for *ex parte* reexamination before the USPTO.<sup>13</sup> The USPTO rejected all claims of the '811 and '423 patents as unpatentable

<sup>11</sup> See MPEP § 201.07 ("A continuation is a second application for the same invention claimed in a prior nonprovisional application and filed before the original prior application becomes abandoned or patented.... The disclosure presented in the continuation must be the same as that of the original application; *i.e.*, the continuation should not include anything which would constitute new matter if inserted in the original application.").

<sup>12</sup> The '811 patent was corrected three times. See Ex. 1 (certificates of correction dated June 10, 2008, March 12, 2013, and July 22, 2014).

<sup>13</sup> The records of the various reexaminations are voluminous—many are thousands of pages. Defendants summarize the reexaminations here, and provide the relevant excerpts of the reexamination records as exhibits to this brief.



because they were anticipated by U.S. Patent No. 5,390,031 to Kang et al. (“*Kang*”) or were obvious in view of *Kang* and another reference. Exs. 5, 6. To overcome this rejection, the applicant (hereinafter “Infinity”) amended all independent claims of both patents to either (i) add the modifier “generic” before certain “communications software” terms, or (ii) add “using an unmodified standard protocol” before certain “shifting” steps. Exs. 7, 8. These additions were the only bases upon which Infinity distinguished the ’811 and ’423 patent claims from the prior art, and the USPTO allowed the claims as amended. Exs. 9, 10.

Infinity added the ’574 and ’915 patents to the case in December 2012 when it filed a “Severed Complaint for Patent Infringement” against each Defendant. In March 2013, the USPTO instituted a second round of *ex parte* reexaminations involving all four Patents-in-Suit. A month later, this Court stayed all cases pending completion of the reexaminations. The USPTO later rejected all claims as unpatentable over *Kang*. Exs. 11, 12, 13, 14. In response, Infinity amended the ’574 and ’915 patents to include the same “generic” limitation it had previously added to the ’811 and ’423 patents. Infinity made numerous statements regarding the meaning of the language added to the claims during the various reexaminations. In particular, Infinity argued that the “generic ... communications software” term distinguished the claims from the prior art because, for example, it referred only to “off-the-shelf” and “not customized” communications software that “accomplish[ed] the task of printing and/or scanning.” *See, e.g.*, Ex. 15 at 14; Ex. 16 at 25. Based on Infinity’s arguments, the USPTO did not invalidate the ’811 and ’423 patents, and allowed the amended claims of the ’574 and ’915 patents to issue. Exs. 17, 18, 19, 20.

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Defendants also provided a detailed description of these reexaminations in their Motion for Partial Summary Judgment on Pre-Issuance Damages and Absolute Intervening Rights (Dkt. No. 70) at 5-13. During the respective reexaminations of the Patents-in-Suit, Infinity made similar arguments and at times submitted identical documents in each of four simultaneous proceedings. In this Brief, for simplicity, Defendants in some instances cite to only one of the reexaminations.



Soon thereafter, the USPTO undertook a third round of reexaminations in which it again rejected all claims as invalid in light of different prior art, including U.S. Patent No. 5,900,947 to Kenmochi et al. (“*Kenmochi*”). Exs. 21, 22, 23, 24. This time, Infinity did not try to distinguish the claims of the Patents-in-Suit from the prior art. Rather, Infinity argued that the priority date of its claims antedated the *Kenmochi* reference because they were entitled to be treated as if they were filed on (*i.e.*, have a priority date of) *April 1994*, the filing date of the ’558 patent—despite the addition of new matter in the application for the ’811 patent that was filed in *June 1996*. *See, e.g.*, Ex. 25. To succeed in this argument, Infinity had to convince the USPTO that the ’558 patent specification disclosed all of the claimed limitations, including the “generic . . . communications software” limitation that Infinity had added during reexaminations. It did so by making numerous—and contradictory—statements about the scope of the claims. The USPTO ultimately accepted Infinity’s claimed priority date and, on that basis, declined to invalidate the Patents-in-Suit in light of *Kenmochi*. *See, e.g.*, Ex. 26.

#### IV. ARGUMENT

Infinity asserts 14 independent (bold) and 12 dependent claims of the Patents-in-Suit against each Defendant: ’811 patent, claims **1**, **2**, **4**, **6**, **7**, and **18-20**; ’423 patent, **1**, **2-4**, and **6**; ’574 patent, **1**, **2**, **4**, **5**, **7**, and **8**; and ’915 patent, **1**, **6-8**, **9**, **14**, and **15**.<sup>14</sup> All asserted claims are method claims, *i.e.*, claims that recite steps for producing a particular result.<sup>15</sup> For the Court’s convenience, Appendix A sets out the language of each asserted claim as amended and corrected.

##### A. Level of Ordinary Skill and Date of Invention

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<sup>14</sup> None of the complaints in Infinity’s cases against Defendants assert the ’423 or ’574 patents as amended. Nor do the operative complaints assert the ’811 patent as corrected on March 12, 2013 and July 22, 2014. Nevertheless, Infinity recited the language of the amended and corrected claims in its Disclosure of Asserted Claims and Infringement Contentions. While reserving all objections, Defendants therefore address in this brief the amended and corrected language of the asserted claims, rather than the claim language as it appears in the patents attached to the operative complaints. *See generally* Appx. A (reciting the language of the asserted claims as amended and corrected).

<sup>15</sup> *See generally* 1 *Chisum on Patents* § 1.03 (“A process is not a structural entity but rather an operation or series of steps leading to a useful result.”); 35 U.S.C. §§ 100(b), 101.



Claim terms should be viewed through the lens of a person of ordinary skill in the art in question at the time of the purported invention. *Phillips*, 415 F.3d at 1313 (claim construction); *Nautilus*, 134 S. Ct. at 2124 (indefiniteness); *see also Eidos Display, LLC v. AU Optronics Corp.*, 779 F.3d 1360, 1364 (Fed. Cir. 2015) (holding that the effective filing date is the relevant date for the indefiniteness inquiry). In this case, the date of the invention should be 1996, when Infinity filed the application that issued as the '811 patent, and the “person of ordinary skill in the art” should be understood to have a bachelor’s degree in engineering or equivalent and at least two years of industry or academic experience with communications between computers and facsimile, printer, and/or scanner devices, including experience with facsimile communications standards. *See* Declaration of Joseph P. Randolph in Support of Defendants’ Opening Claim Construction Brief (“Randolph Dec.”) at ¶¶ 16, 17. Although Plaintiff contends that the Patents-in-Suit are entitled to a 1994 priority date, and has described a “person of ordinary skill in the art” with a somewhat different education and experience, the arguments below would apply with equal force if the relevant date were 1994, or under Infinity’s conception of the person of ordinary skill, as presented to the USPTO.

**B. The “Facsimile Machine” Terms.**

Term/Phrase	Defendants’ Construction	Plaintiff’s Construction
“facsimile machine” / “fax machine”  '811, cl. 1, 2, 4, 6, 7, 18-20 '423, cl. 1-4, 6 '574, cl. 1, 2, 4, 5, 7, 8 '915, cl. 1, 6-9, 14, 15	“a device that transmits scanned information, or receives information for printing, only in compliance with a CCITT/ITU-T facsimile standard”	No construction necessary  or  “a device that is capable of sending and receiving a fax”

Every asserted claim of the Patents-in-Suit contains either the term “facsimile machine” or



its synonym “fax machine.”<sup>16</sup> Claim 1 of the ’811 patent is exemplary:

A method of creating a scanning capability from a **facsimile machine** to a computer, with scanned image digital data signals transmitted through a bi-directional connection via a passive link between the **facsimile machine** and the computer, comprising the steps of:

by-passing or isolating the **facsimile machine** and the computer from the public network telephone line;

coupling the **facsimile machine** to the computer;

conditioning the computer to receive digital facsimile signals representing data on a scanned document; and

conditioning the **facsimile machine** to transmit digital signals representing data on a scanned document to the computer, said computer being equipped with generic send/receive driver communications software enabling the reception of scanned image signals from the **facsimile machine**, said transmitted digital facsimile signals being received directly into the computer through the bi-directional direct connection via the passive link, thereafter, said computer processing the received digital facsimile signals of the scanned document as needed.

Ex. 1 (’811 patent) (as amended and corrected) at claim 1 (emphasis added).

# 1. The Patents-in-Suit Describe and Claim a “Standard” or “Conventional” Facsimile Machine

A person of ordinary skill in the art, when reading the term “facsimile machine” in the context of the intrinsic evidence, would understand the term to refer to a *standard* or *conventional* fax machine that existed in 1996. *See, e.g.*, Ex. 1, Abstract (“Apparatus for interfacing a *conventional* facsimile machine with a PC.”), 6:19-21 (“FIG. 2c shows another alternative arrangement in which the circuitry 10 of the present invention is integrated into the *standard* facsimile machine 30.”); Ex. 27 (Infinity slide presented to USPTO cataloging sixteen instances in which the Patents-in-Suit describe the facsimile machine as being “conventional” or

<sup>16</sup> The Patents-in-Suit often use slight variations in the claim language to express the same concept. For the terms in sections IV.B, IV.D, IV.F, IV.G, IV.I, and IV.J, it is undisputed that each term in the term family is synonymous, and all should be given the same construction.



“standard”). Indeed, the premise of the purported invention of the Patents-in-Suit is to leverage the functionalities resident on a standard facsimile machine so that it functions “effectively as a scanner or printer . . . and provides a scanning or printing capability at a mere fraction of the cost of conventional scanners or printers.” Ex. 1 at 8:56-63; *see also id.* at Abstract, 1:21-55, 5:66-6:3, Figs. 2a-2j.

## 2. The CCITT Standard

A standard or conventional fax machine in 1996 would transmit scanned information, or receive information for printing, in compliance with the then-existing facsimile standards: namely, the CCITT/ITU-T facsimile standards. These standards, promulgated by the International Telegraph and Telephone Consultative Committee (CCITT)—later renamed Telecommunication Standardization Sector of the International Telecommunication Union (ITU-T)—were the only internationally-recognized facsimile standards that existed in 1996. Randolph Dec. at ¶ 25. The intrinsic record repeatedly refers to the CCITT standards. For example, the patent specifications state that the facsimile machine of the purported invention can be any of “a group I, a group II, or group III machine.” Ex. 1 at 5:17-20. Each of these “groups” are references to different, specific CCITT/ITU-T standards. Randolph Dec. at ¶ 26. Further, U.S. Patent No. 5,452,106 to Perkins (“*Perkins*”), which was considered by the Examiner during the prosecution of the Patents-in-Suit, recognizes that “CCITT Recommendations T.4 and T.30 . . . govern facsimile telecommunications.” Ex. 28 at 2:11-12; *see also* Newton’s Telecom Dictionary (11th ed. 1996) (Ex. 29) at 238-39 (referencing the CCITT/ITU-T groups in the definition of “facsimile equipment”). Accordingly, one of ordinary skill in the art would understand “facsimile machine” to refer to a device that transmits scanned information, or receives information for printing, in compliance with a CCITT/ITU-T facsimile standard.



### 3. Infinity's Construction Is Inconsistent with the Specification and the Positions It Took During Prosecution

To ensnare the Defendants' multi-function printers, Infinity now urges a construction under which *any* device capable of sending or receiving a facsimile would qualify as the claimed "facsimile machine." This is not supported by the evidence. A person of ordinary skill in the art would understand that the claimed "facsimile machine" would not include a device that transmits scanned information, or receives information for printing in accordance with the CCITT/ITU-T protocols *and also by other means*. Such a device would not be fairly characterized as a "conventional" or "standard" facsimile machine at the time of the invention. Randolph Dec. at ¶ 29. Moreover, Infinity itself made numerous statements in the intrinsic record that support this understanding.

Beginning with the claim language, claim 1 of the '811 Patent describes the invention as an interface that enables a facsimile machine to operate as a scanner. Ex. 1 at 9:17-18 (claiming a method of creating a scanning capability from a facsimile machine to a computer). Other claims characterize the invention as an interface that enables a facsimile machine to operate as a scanner or printer. These characterizations, taken together, suggest that a person of ordinary skill in the art would construe the term "facsimile machine" to exclude devices that can act as a scanner or printer through means other than the use of facsimile machine protocols. *See Phillips*, 415 F.3d at 1314 ("Because claim terms are normally used consistently throughout the patent, the usage of a term in one claim can often illuminate the meaning of the same term in other claims.").

The specification is in accord. It describes a "conventional facsimile machine" as one that "scans documents and transmits . . . scanned information through a modem in a standard facsimile format to a remote facsimile which receives the transmitted data . . . and converts the transmitted data into a form for printing . . . a replica of the document scanned by the transmitting facsimile."



Ex. 1 at 1:19-25; *see also* Ex. 69 at ¶ 45; Ex. 68 at ¶ 8. Immediately following this definition, the specification criticizes existing scanning and printing devices especially adapted for use with PCs for being “relatively expensive.” Ex. 1 at 1:26-30.

The specification also states that a principal object of the “present invention” is “to provide a circuit for interfacing a PC and a facsimile to enable the facsimile to be utilized as a scanner or a printer for a PC.” *Id.* at 1:39-44. Because the invention is meant to enable a facsimile machine to operate as a scanner or printer, the facsimile machine could not already operate in that fashion. Thus, this reference to the “present invention” limits the scope of the claims and excludes devices that transmit/receive scanning or printing data other than by means of the facsimile protocols. *See Verizon Servs. Corp. v. Vonage Holdings Corp.*, 503 F.3d 1295, 1308 (Fed. Cir. 2007) (“When a patent thus describes the features of the ‘present invention’ as a whole, this description limits the scope of the invention.”).

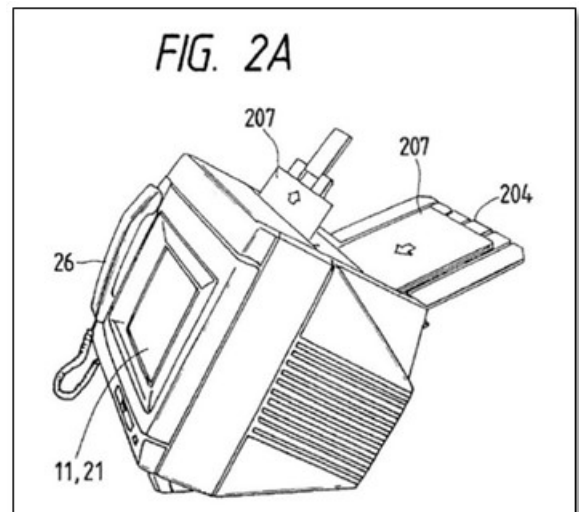
Consistent usage of a claim term in the patent specification provides guidance as to how to construe the term. *See Nystrom v. TREX Co.*, 424 F.3d 1136, 1145 (Fed. Cir. 2005) (limiting the construction of the claim term “board” to refer to wood cut from a log because of the term’s consistent usage in the specification). Here, the patent specification repeatedly uses the term “facsimile machine” in a manner that excludes scanners and printers. The specification repeatedly differentiates between these devices. *See* Ex. 1 at 2:20-32. (“FIG. 1 is a circuit diagram of the interface circuitry of the present invention which enables a PC to utilize a conventional facsimile as a sophisticated scanner or printer.”); *id.* at 4:27–28 (“Assuming that the local facsimile is desired to be operated in combination with the PC and to function as a scanner....”); *id.* at 5:32–34 (“Operation of the facsimile machine in combination with the PC wherein the facsimile machine operates as a printer is as follows . . . .”); *id.* at 8:56–63 (“The circuitry of the present invention



provides all necessary signal conditions . . . . The facsimile machine, although operating in its normal fashion, functions . . . effectively as a scanner or printer . . . and provides a scanning or printing capability at a mere fraction of the cost of conventional scanners or printers.”).

These references explaining how the claimed invention enables a facsimile machine to operate as a printer or scanner require that the facsimile machine not have these capabilities in the first place. *See ICU Med., Inc. v. Alaris Med. Sys., Inc.*, 558 F.3d 1368, 1374–75 (Fed. Cir. 2009) (construing the claim term “spike” as requiring a pointed tip because the specification repeatedly and uniformly describes the spike as a pointed instrument); *Bell Atl. Network Servs., Inc. v. Covad Commc’ns Group, Inc.*, 262 F.3d 1258, 1271 (Fed. Cir. 2001) (patentee defines a claim term “by implication” by using it throughout the specification in a way consistent with a single meaning).

During the second reexaminations of the ’811 and ’423 patents and the first reexaminations of the ’574 and ’915 patents, the USPTO rejected certain claims as obvious over, *inter alia*, U.S. Patent No. 5,598,533 to Yokota et al. (“Yokota”). *See, e.g.*, Ex. 11 at 4, 6. *Yokota* disclosed a hybrid device having a personal computer and a facsimile machine connected to each other in a single housing, as depicted in Figure 2A (right). Ex. 30 at Fig. 2A. Like the facsimile device claimed in the Patents-in-Suit, the *Yokota* device could send and receive facsimile messages over a public telephone network, *i.e.*, in accordance with a CCITT/ITU-T facsimile standard. *Id.* at 8:9-17.



However, the *Yokota* device also allowed a user to print documents directly from the personal computer via the connected facsimile machine, and to scan documents from the facsimile machine



directly to the computer, *i.e.*, using a protocol not in accordance with a CCITT/ITU-T facsimile standard. *Id.* at Title (“Compound Electronic Apparatus Having a Computer and Facsimile Connected Via a Common Memory for Communications Including Printing Computer Data with the Facsimile”); 7:30-60, 14:58-64.

In response to the USPTO, Infinity argued that the *Yokota* device was not a “standard fax machine.” *See* Ex. 16 at 31 (“*Yokota is neither a PC nor a standard fax machine*, but an integration of parts of both.”) (emphasis added); *see also* Ex. 31 at 8 (“Yokota’s apparatus is neither a fax or standard computer but a conglomeration of the two.”). Thus, Infinity established that a device that prints and scans in accordance with the CCITT/ITU-T protocols but can also otherwise send or receive facsimile messages is not the claimed “facsimile machine” of the Patents-in-Suit.

As another example, during the reexaminations, the USPTO rejected the claims of the Patents-in-Suit over U.S. Patent No. 5,218,458 (“*Kochis* ’458”). *See, e.g.*, Ex. 11 at 4, 6. *Kochis* ’458 discloses two computer systems, each including a multi-functional device with printing, scanning, and facsimile functionalities. Ex. 32 at 2:9-16. A key aspect of the *Kochis* ’458 invention was the capability to send and receive facsimiles according to the CCITT/ITU-T standards. *Id.* at Abstract (“The file is converted into a FAX graphical image by the transmitting system, then transmitted using a standard CCITT FAX protocol, and converted back to an ASCII format in the receiving computer system using optical character recognition (OCR).”). Infinity distinguished the subject patent claims from *Kochis* ’458 by declaring, “*Kochis* is not communicating to a facsimile device but rather some conglomerate of fax, switch, scanner and printer interface, said printer being outside of the multifunction and communicated to in the standard way a PC communicates with its printer.” Ex. 16 at 26 (emphasis added). In other words,



Infinity distinguished the very products that it now intends to capture with its proposed construction. Moreover, Infinity made clear that the *Kochis* '458 system was not a “facsimile machine” under the Patents-in-Suit because the facsimile functionality was “conglomerate[d]” with other functionalities, and because a computer could print on the device “in a standard way a PC communicates with its printer”—*i.e.*, not in the standard way a standard fax machine communicates. In other words, as it did for *Yokota*, Infinity admitted that a device is not a “facsimile machine” simply because it is capable of sending and receiving a fax.

In short, a person of ordinary skill in the art would understand, and the intrinsic record confirms, that a “facsimile machine” or “fax machine” of the claimed invention is a conventional and standard fax machine—that is, a device that transmits scanned information, or receives information for printing, only in compliance with a CCITT/ITU-T facsimile standard. Defendants respectfully request that the Court construe the term accordingly.

### C. “Passive Link”

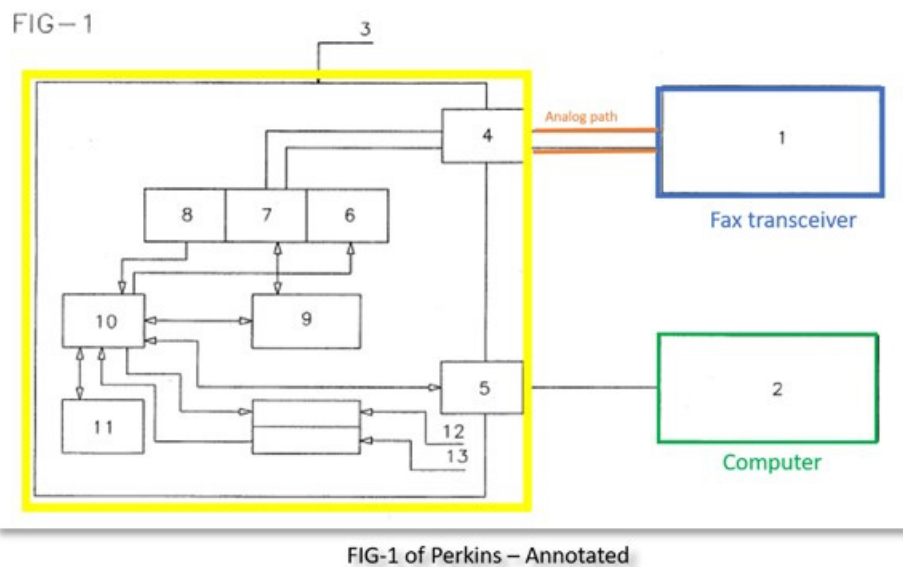
Term/Phrase	Defendants’ Construction <sup>17</sup>	Plaintiff’s Construction
“passive link”  ’811, cl. 1, 6, 7, 18-20 ’423, cl. 1, 2, 6 ’574, cl. 1, 7, 8 ’915, cl. 1, 9	Indefinite  or alternatively  “a link where the initiation of data flow is activated from a set-up procedure within the PC and/or the facsimile machine, and <u>said</u> data is transferred, with no intervening apparatus or signal interception by a processing element or any active component, along the path of an unbroken direct connection between the PC and the facsimile machine, <u>for</u>	No construction necessary  or  “a passive link is one where the initiation of data flow is activated from a setup procedure within the PC and/or the facsimile machine, and the data is transferred with no intervening apparatus or signal interception by a processing element or any active component, along the path of an unbroken direct connection between the PC and facsimile machine”

<sup>17</sup> The underlined language reflects the substantive differences between Defendants’ and Plaintiff’s proposed constructions.



	<u>purposes of providing both scanning or printing data”</u>	
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Every independent claim of the Patents-in Suit requires a facsimile machine to be connected to a computer by a “passive link.” The term “passive link” does not appear in the Patents-in-Suit’s common specification. In fact, when the application leading to the ’811 patent was filed, “passive link” was not even a claimed limitation. Ex. 33. The term was added only after the USPTO rejected the claims as anticipated by U.S. Patent No. 5,452,106 (“*Perkins*”). See Ex. 34 at pp. 6-7; Ex. 28. The USPTO correctly noted that *Perkins* discloses a system and method of a computer using a fax machine as a scanner or printer, with the computer communicating with the fax machine through a “facsimile device 3.” See Ex. 28 at 3:59-4:2; 4:24-30; Ex. 34 at pp. 6-7. Facsimile device 3 could be either external to the computer (as shown in Figure 1), or within the computer itself. Ex. 28 at 9:29-33.



Faced with a rejection based on *Perkins*, Infinity amended the claims to add a limitation requiring signals be transmitted via a “passive link” between the computer and facsimile machine. Ex. 35; see also Ex. 25 at 7 (Infinity admits “[t]he term ‘passive link’ was first introduced in an



amendment ... to distinguish the invention of the 056 application from Perkins ...”). Infinity then differentiated the “passive link” from the connection disclosed in *Perkins*:

***Perkins device 3 intercepts the flow of data before it is transmitted to the computer circuits, in order to convert the analog signal into a digital signal format . . . . Contrary to the above, when Applicant transfers digital data from the facsimile receiver through a passive link for scanning to the computer, the non-intercepted data enters through the RS 232 type connector port of the computer and passes directly to the I/O Bus and is processed by the receiving circuits ... of the computer, providing a true non-intercepted digital signal between the facsimile transceiver and the computer.***

Ex. 35 at 12 (emphasis added). In other words, Infinity argued that *Perkins* did not show a passive link between the fax machine and computer because device 3 converted an analog signal from the fax machine into a digital signal, which intercepted the flow of data along the path. Infinity conceded *Perkins* disclosed that a “device 3” could actually be “internal to the computer,” but it argued that the device should nonetheless be regarded as “intercept[ing]” the flow of data between the fax machine and computer. *Id.* Consistent with this explanation, Infinity acted as its own lexicographer and explicitly defined “passive link”:

The Applicant’s definition of a ‘passive link’ is one where the initiation of data flow is activated from a set-up procedure within the PC and/or the facsimile machine, and said data is transferred, with no intervening apparatus or signal interception by a processing element or any active component, along the path of an unbroken direct connection between the PC and the facsimile machine, for purposes of providing both scanning or printing data.

Ex. 36 at 18. If the Court were to deem “passive link” not indefinite, Defendants request it adopt word-for-word Infinity’s definition, as set forth during the prosecution of the ’811 patent. *See, e.g., Phillips*, 415 F.3d at 1316 (a patentee may assign a specific meaning to a claim term by acting as a lexicographer). As shown above, Infinity’s alternative construction improperly alters and omits language from this definition without any explanation.

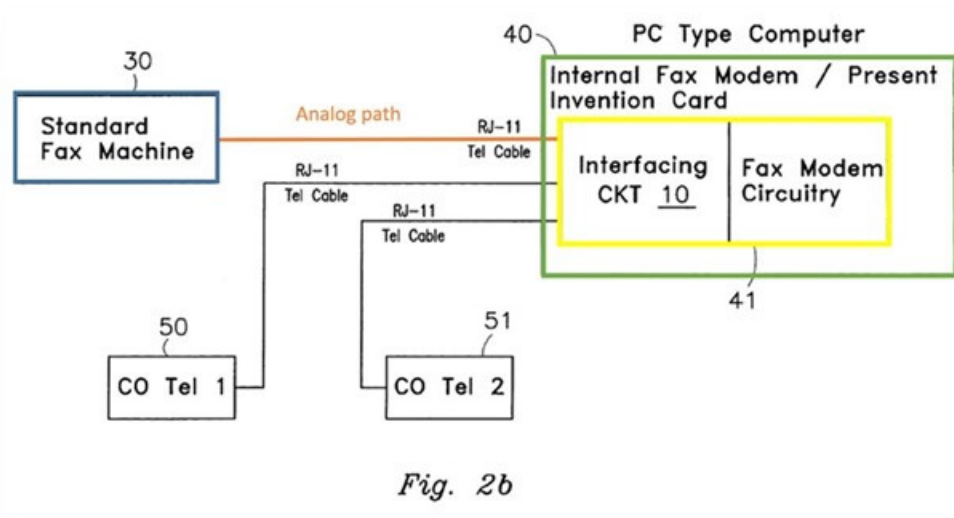
However, in view of the full intrinsic record, “passive link” “fail[s] to inform, with reasonable certainty, those skilled in the art about the scope of the invention.” *Nautilus*, 134 S. Ct.



at 2129. Five years after applicant explicitly defined “passive link,” Infinity described the term during the reexaminations of the Patents-in-Suit in ways that completely contradict its own express definition. This confusion renders the claims indefinite.

Specifically, during the last reexamination of the Patents-in-Suit, the USPTO rejected all claims as invalid over various prior art references. *See* Ex. 37. Rather than distinguishing the claimed inventions from the prior art, Infinity argued that the art should be ignored because its claims were entitled to a priority date of the original ’278 application, which would predate some of the cited art. *See generally* Ex. 25. But to make that argument, Infinity had to show that the original ’278 application contained a written description of a device with the claimed “passive link.” *Id.* at 4. And to do that, it had to contradict its previous express definition of “passive link.”

Because the ’278 application does not actually refer anywhere to a “passive link,” Infinity argued that Figures 2b, 2c and 2d of the ’278 application inherently disclose the purported “passive link.” *See, e.g.* Ex. 43 at 7-8, Ex. 65 at ¶ 29.



Ex. 1 at Fig. 2b (colorized, annotated). The problem for Infinity is that Fig. 2b shows a system that is, in relevant part, indistinguishable from *Perkins*. According to Infinity, *Perkins* did not disclose a “passive link” between the fax machine and computer because “device 3” intercepted



an analog signal from the fax machine and converted it into a digital signal format for the computer, even in the embodiment of *Perkins* where “device 3” is physically located in the computer. *See supra*. Likewise, in Fig. 2b, the interfacing circuit/fax modem circuitry in the computer intercepts an analog signal from the fax machine transmitted along the RJ-11 cable and demodulates it into a digital format for the computer. This is necessarily so because, as one of ordinary skill in the art would know, only analog signals are capable of travelling over the RJ-11 cable depicted. Randolph Dec. at ¶ 43. Thus, both *Perkins* and Figs. 2b-2d show a path<sup>18</sup> between a fax machine and computer, with a device in the computer that demodulates the analog data into digital signals. *Id.* at ¶ 44.

Either *Perkins* and Figs. 2b-2d both meet Infinity’s definition of “passive link,” or they both do not. Yet, the intrinsic record contains illogical and irreconcilable statements that one embodies a passive link, and the other does not. A person of ordinary skill in the art cannot understand what “passive link” means in light of this record and cannot therefore discern the scope of the invention with reasonable certainty. *Id.* at ¶ 46; *Nautilus*, 134 S. Ct. at 2129. Accordingly, all claims containing this term are invalid as indefinite. *See In re Walter*, 698 Fed. Appx. 1022, 1027 (Fed. Cir. 2017) (unpublished) (holding that a claim term’s “ill-defined boundaries *coupled with the patentee’s erratic use of the term* fails to inform skilled artisans about the scope of the invention with reasonable certainty”) (emphasis added); *Teva Pharms. USA, Inc. v. Sandoz, Inc.*, 789 F.3d 1335, 1345 (Fed. Cir. 2015) (term indefinite where the patentee, at different times, ascribed different meanings to the term); *Transcend Med., Inc. v. Glaukos Corp.*, Civ. Action No.

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<sup>18</sup> Infinity’s expert, Dr. Levitt, declared to the USPTO that Mr. Nachman’s use of a modulation procedure within the PC and facsimile machine does not insert an “intervening apparatus or processing element along the path.” *See* Ex. 65 at ¶ 30 (emphasis added). To make that argument, however, Dr. Levitt explicitly narrowed the definition of “path” to the RJ-11 connection between the fax and computer, not the entire path through the interface circuit/fax modem within the computer. *See id.* Were that same narrow interpretation of “path” applied to *Perkins*, device 3 in the computer would also not be “along the path,” and *Perkins* would therefore disclose a “passive link.”



13-830, 2015 U.S. Dist. LEXIS 124863, at \*22 (D. Del. Sept. 18, 2015) (finding term indefinite where the patentee “variously represented [different meanings of the term] to the USPTO,” and rejecting patentee’s “experts attempt to salvage the inconsistency by adopting the term’s plain and ordinary meaning” as “impermissibly rewrite[ing] the specification and ignor[ing] the relevant prosecution history.”).

**D. The “Generic Send/Receive Driver Communications Software” Terms**

<b>Term/Phrase</b>	<b>Defendants’ Construction</b>	<b>Plaintiff’s Construction</b>
“generic send/receive driver communications software” / “generic send receive driver communications software” / “generic send or receive communications software” / “generic send and receive driver communications software”  ’811, cl. 1, 6, 18-20 ’423, cl. 1, 2, 6 ’574, cl. 1, 7, 8 ’915, cl. 1, 9	Each of the claim phrases as a whole is indefinite.  Alternatively, the term “generic” means:  “off-the-shelf and neither customized, proprietary, manufacturer-specific, nor tailored for a specific application or process”; and  the “send/receive driver communications software” terms mean:  “software that controls a peripheral and provides all instructions necessary to accomplish the tasks of printing from the personal computer to the facsimile machine and/or scanning from the facsimile machine to the personal computer, in a standard CCITT/ITU-T facsimile format”	No construction necessary  or  “driver communications software capable of interfacing with a facsimile machine using standard communications protocols on a standard PC”

**1. The “Generic Send/Receive Driver Communications Software” Terms are Indefinite.**

The phrase “generic send/receive driver communications software” and its synonyms are indefinite because Infinity’s contradictory statements to the USPTO have made it impossible for a



person of skill in the art to determine whether the adjective “generic” modifies “communications” or modifies “software”—a critical difference. “Generic” is a descriptive term that was added to all but one asserted independent claim during reexamination. During the first two rounds of reexaminations, Infinity unambiguously told the USPTO that “generic” modifies “software.” In the third round of reexaminations, however, Infinity instead argued that “generic” modifies “communications.” Infinity made this argument in an effort to save its patents from invalidly, but in doing so created a hopelessly contradictory intrinsic record that renders the “generic send/receive driver communications software” terms indefinite. 35 U.S.C. § 112, ¶ 2; *Nautilus*, 134 S. Ct. at 2129 (claims must set out the invention’s scope “with reasonable certainty”).

In the first and second rounds of reexaminations, Infinity consistently represented that the claims were patentable because it was limiting them to require “generic” *software*. In a 2013 submission, for example, Infinity explained at length how “generic software” distinguished the Patents-in-Suit from the prior art: “In particular, Kochis, Yokota, and Kang all have instances of significant software and/or hardware modifications to achieve their specific functional objectives and thus the *software* described no longer qualifies as “**GENERIC**” as defined by the examiner.” Ex. 16 at 25 (emphasis added); *see also id.* at 29 (distinguishing prior art on the ground that it “require[ed] *software* ‘customized for a particular application’ and therefore not ‘*generic*.’”) (emphasis added); *Id.* at 35 (prior art “driver software” was not “generic”); *id.* at 37 (prior art “driver software” was not “generic”); Ex. 38 at 10; *see also id.* at 5 (“The patent owner notes that Kochis 762’s SCL, PCL and FCL driver *software* are not commercial off-the-shelf *software* (i.e. not ‘*generic* send/receive driver communications *software*’).”). Infinity’s expert agreed: “Thus a custom version of *software* as discussed in the mentioned prior art that only works with one instance of a PC (and communications port), FAX or combination thereof could not be *generic*



and any available since it would not work with a whole class or group of said PCs, FAXes or combinations thereof.” Ex. 39 at ¶ 18.

The Examiner also understood that “generic” modified “software,” and that “generic software” was the only thing that distinguished the claimed invention from the prior art:

Claim 19 has been amended to denote that ‘the computer is equipped with generic send/receive driver communications software.’ Merely equipping the computer with such *software* would not differentiate the claim from the prior art. Rather, equipping the computer with the *generic software* such that the *generic software* is enabled to receive scanned image signals from a fax machine and/or to send computer data to the fax machine for printing is necessary for overcoming the prior art (such as in claims 1, 6, 18, and 20). *Generic send/receive software* was widely known in the art at the time of the invention, and it is not the mere inclusion of such *software*, but rather utilization of such *software* for a particular purpose (i.e., receiving scanned image signals from a fax machine and/or sending computer data to the fax machine for printing), that would render the claim patentable.

Ex. 40 at Infinity0001827.

Later, in the third round of reexaminations, Infinity took the opposite position in order to save its patents from invalidity. In those reexaminations, the USPTO rejected all claims as unpatentable over the 1995 *Kenmochi* reference, alone or in combination with other references. *See, e.g.*, Ex. 37 at 7, 25, 33, 52. Infinity was able to save the Patents-in-Suit from being invalidated only by arguing that the 1995 reference was not, in fact, prior art at all because the Patents-in-Suit are allegedly entitled to the 1994 priority date of their ultimate parent patent, the ’558 patent, not the 1996 priority date of the earliest-filed Patent-in-Suit, the ’811 patent. To prevail in that critical priority date argument, Infinity had to convince the USPTO that the more limited disclosure of the ’558 patent contained the necessary written description support for “generic” even though the word never appears in the ’558 patent. *See* 35 U.S.C. § 112 ¶ 1 (written description requirement). Infinity did so by reversing course and arguing for the first time that the claims do not require “generic” *software*, but rather only “generic” *communications*. Contradicting years of its own



statements to the USPTO, Infinity asserted that “*the term ‘generic’ was not added to the claims to modify ‘software,’ rather it was added to modify the term ‘communications,’*” as it is the communications that comply with the standards.” Ex. 41 at 5-6 (emphasis added). Only then did the Examiner stand down on the issue of written description support for the “generic” term, and decline to invalidate the Patents-in-Suit. *See, e.g.*, Ex. 26.

Inconsistent assertions during prosecution can, and in this case do, render a term indefinite. In *Teva*, for example, it was undisputed that “molecular weight” could refer to one of three different measures of weight, calculated according to three well-known methods, none of which were disclosed in the Patents-in-Suit. *Teva*, 789 F.3d at 1341. During the prosecution of one patent, the applicant stated that “molecular weight” referred to one of the three measures, but during prosecution of a related patent stated that “molecular weight” referred to a different measure. *Id.* at 1344-45. This inconsistency rendered the term indefinite, and the associated claim invalid. *Id.* at 1345. Similarly, in *In re Walter*, the applicant’s inconsistent statements during reexamination about what structures were “block-like” rendered the claims indefinite. *In re Walter*, 698 Fed. Appx. at 1027. By consistently arguing for one construction for two years, and then later arguing for another construction—with both constructions being independently accepted by the USPTO—Infinity has made it impossible for a person of ordinary skill in the art to understand the scope of “generic send/receive driver communications software.” The phrase is therefore indefinite, and the associated claims invalid. *Nautilus*, 134 S. Ct. at 2129.

**2. Should the Court Construe the “Generic Send/Receive Driver Communications Software” Terms, Infinity is Bound by Its Statements to the USPTO Limiting the Scope of the Claims**

As noted above, the Court need not reach the issue of how “generic/send receive driver communications software” should be defined because it is indefinite. If, however, the Court is not inclined to find these terms indefinite, Infinity should be held to its repeated statements about what



the patents mean by the two constituent parts of this term: “generic” and “send/receive driver communications software.” Based on Infinity’s statements to the USPTO, (a) “generic” should be defined as “off-the-shelf and neither customized, proprietary, manufacturer-specific, nor tailored for a specific application or process,” and (b) “send/receive driver communications software” should be defined as “software that controls a peripheral and provides all instructions necessary to accomplish the tasks of printing from the personal computer to the facsimile machine and/or scanning from the facsimile machine to the personal computer, in a standard CCITT/ITU-T facsimile format.”

**a. “Generic”**

As discussed above, during the first round of reexamination, Infinity was able to avoid having its patents invalidated by amending all claims of the ’423 patent and all but one asserted claim of the ’811 patent to recite “generic” send/receive driver communications software. *See supra* at section III.C. “Generic” is not found in the text of the Patents-in-Suit’s specification, and appears only once in the figures. Ex. 1 at Fig. 2g (labeling box 40 “PC Type Computer with Generic Send/Receive Communication Software”). During the first round of reexaminations, the Examiner defined “generic” as “capable of interfacing with a standard/conventional facsimile machine using standard communication protocols on a standard PC.” Ex. 42 at 6. During the next round of reexaminations, the Examiner considered additional prior art and, using the same definition of “generic” from the first round of reexaminations, rejected all claims as unpatentable. Ex. 37 at 7, 25, 33, 52. To avoid the prior art and overcome the Examiner’s rejection, Infinity argued at length that “generic” had a different and narrower meaning than had been applied during the previous reexamination. Infinity’s arguments were critical to the USPTO’s decision not to invalidate the claims: “The Examiner in the [second] reexamination found claims 1-6 and 18-20 of the ’811 patent patentable based upon a new interpretation of the claimed generic send/receive



driver communications software, as argued by the Patent Owner in response to the final rejection.” Ex. 21 at 15; *see also id.* at 16 (also noting the “different interpretation from that of the previous reexamination proceeding”). Defendants’ construction of “generic” is taken directly from Infinity’s own, binding statements characterizing the claim language. That construction is proper for at least four reasons.

First, Infinity and its expert repeatedly told the USPTO that the term “generic” refers to “off the-shelf,” commercially available software packages: “The ‘generic send/receive driver communications software’ of the 811 patent would be understood by one of ordinary skill in the art to be communications software that is not customized and not tailored to a specific application or process, and in this sense a characteristic of commercial ***off the-shelf communications software.***” Ex. 15 at 14 (emphasis added); *see also* Ex. 44 at ¶ 17 (“‘[G]eneric’ would be understood of [sic] one of ordinary skill in the art as not customized and not tailored to a specific application or process, and in this sense a characteristic of commercial off-the-shelf communications software.”); Ex. 45 at 8 (“Generic Summary” presentation stating “the Nachman invention ... utilizes commercially available communications packages that are: General Purpose AND ... ‘Not customized or tailored for a specific application or process’”) (emphasis in original); *id.* at 5-6; Ex. 67 at 12 of 43; Ex. 70 at 9 of 25.

This was a critical argument for Infinity, and Infinity specifically distinguished the prior art on the ground that it did not include off-the-shelf communications software, and thus did not teach the “generic” requirement. Ex. 15 at 13 (arguing that prior art “software is customized and not [the] commercial off-the-shelf software’ of the instant patent claims”); *id.* at 13-14 (“The patent owner notes that Kochis 762’s SCL, PCL and FCL driver software are not commercial off-the-shelf software (i.e. not ‘generic send/receive driver communications software’), rather they are



application specific, proprietary command language routines created using a PC's command language utility.”).

Second, Infinity distinguished the prior art as having “manufacturer-specific” software:

The prior art asserted by [the reexam requester] utilizes either of, additional communications protocol or lower level driver routines (ISRs) as part of the send/rec driver comm software, and that are a) particular to the application of printing and scanning (or in one case also faxing), and as such are ‘customized or tailored’ to these particular processes, or b) are not general purpose as the communication software is **manufacturer-specific** and not capable of communicating with generic software that is available from other manufacturers, for the purposes of printing and scanning.

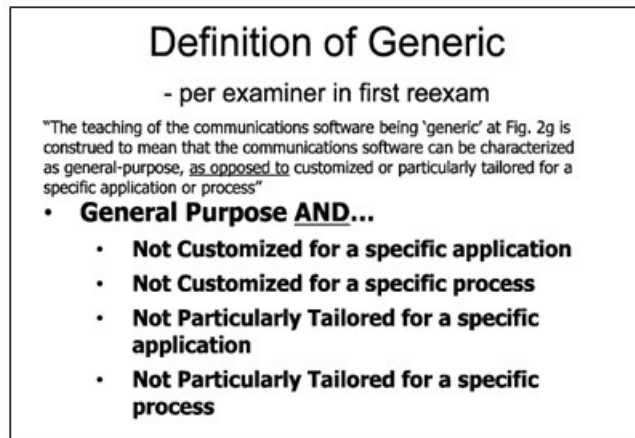
Ex. 16 at 5 (emphasis added); *see also id.* at 6 (“[S]end/receive communication software may be capable of communicating to many devices, yet may be limited to communications to devices that utilize only a **specific manufacturers communication software** and/or uses a limited set of send/receive functions, and that software then would not be qualified as generic per the definition (i.e. ‘general purpose’ or ‘not limited to specific application or process’).”); *id.* at 35-36; Ex. 31 at 3.

Third, Infinity specified that “generic” limited the invention to non-proprietary software: “Patent Owner asserted that Generic in the context of the specification for its use of ‘conventional’ and ‘standard’ **limits the invention to non-proprietary ‘send/receive communications software’** that uses standard telefax and standard PC.” Ex. 46 at 2 (emphasis added); *see also, e.g.,* Ex. 15 at 13 (distinguishing prior art on the ground that it “requires that the facsimile device and the computer must each be equipped with specific, **proprietary (i.e., non-generic), send/receive driver communications software**”) (emphasis added); Ex. 47 at 2 (“From the perspective of one of ordinary skill in the art, proprietary send/receive driver communication software” would not meet the definition of generic); Ex. 48 at ¶ 3 (“[I]f generic is to be defined by the words ‘any available,’ it must be used within the context, group or class the inventor intended,



namely being that which conforms or adheres to accepted standards. This use of the words ‘any available’ in this context then precludes use of proprietary software, such as that used in the prior art applied against the claims of the patents.”); cf. Ex. 1 (’811 patent) at 8:24-26.

Fourth, Infinity repeatedly stated that claimed “generic . . . communications software” was not “customized” or “particularly tailored” for a “specific application” or “specific process,” and distinguished the prior art on that basis.



Ex. 31 at 2; *see also id.* at 4 (“Kochis software is “customized or tailored for a specific application • Therefore Kochis software is NOT Generic”) (emphasis in original); *id.* at 8 (distinguishing *Yokota* reference on the grounds that it was not generic because “it MUST require software that is ‘customized for a [this] specific process’”) (alteration in original); Ex. 45 at 9 (“Why is the correct ‘generic’ definition important? Because it establishes an important distinction of the Nachman invention, namely that: No modification was required[.]”); *id.* at 10 (“Our definition: ‘characterized as general-purpose, as opposed to customized or particular tailored for a specific application or process.’”); *id.* at 8 (“the Nachman invention ... utilizes commercial available communications packages that are [] General Purpose AND ... • “Not customized or tailored for a specific application or process”); Ex. 31.

Infinity’s repeated and specific statements make clear its intent that “generic” be



understood to mean “off-the-shelf and neither customized, proprietary, manufacturer-specific, nor tailored for a specific application or process.”

**b. “Send/Receive Driver Communications Software”**

“Send/receive driver communications software,” if not indefinite, should be construed as “software that controls a peripheral and provides all instructions necessary to accomplish the tasks of printing from the personal computer to the facsimile machine and/or scanning from the facsimile machine to the personal computer, in a standard CCITT/ITU-T facsimile format.” There are at least three reasons why this construction is correct.

First, as any person of ordinary skill in the art would know, a driver is a type of software that controls a peripheral device, which in this case is the claimed fax machine. *See, e.g.*, Ex. 49 (*The IEEE Standard Dictionary of Electrical and Electronics Terms* 6th ed. 1997) at 318 (“driver [(2)(B)] (software) A computer program that controls a peripheral device and, sometimes, reformats data for transfer to and from the device.”); Ex. 50 (*McGraw-Hill Dictionary of Scientific and Technical Terms* 5th ed. 1994) at 616.

Second, Infinity made clear during prosecution that the claimed software must provide all instructions necessary to print from the computer to the fax machine, or scan from the fax machine to the computer. Ex. 1 (’811 patent) at 8:14-26. Both Infinity and the Examiner noted that the functionality of the “generic send/receive driver communications software” was essential to patentability. The Examiner stated:

Generic send/receive software was widely known in the art at the time of the invention, and ***it is not the mere inclusion of such software, but rather utilization of such software for a particular purpose*** (i.e., receiving scanned image signals from a fax machine and/or sending computer data to the fax machine for printing), ***that would render the claim patentable.***

Ex. 40 at Infinity0001827 (emphasis added).

Infinity agreed, and distinguished the prior art on the ground that it did not use generic



software to print and scan between the computer and fax machine:

Kochis and Yokota both utilize . . . generic software (e.g., word processors in the example of Yokota) their use is irrelevant to the use and application as taught by Nachman. Specifically, it is clear that all PCs and Fax machines are capable of using generic software for various functions, but no PC or FAX machine or example of prior art, and no combination of Kochis, Yokota or Kang utilize GENERIC “send/receive communications software” **for accomplishing the task of printing and/or scanning from the PC to the FAX.**

Ex. 16 at 25 (emphasis added).

Consistent with this statement, Infinity made it clear that the claimed generic software provides *all* of the necessary instructions. Infinity distinguished the prior art as not teaching the claims’ “generic send/receive driver communications software” where *any* customized software was used in the printing and scanning process. *See id.* at 27-28 (distinguishing *Kochis* reference because it uses both general purpose software, *i.e.*, “a FAX transmission protocol, CCITT Group 3,” and customized software, *i.e.*, “the Non-Standard Facility (NSF) within CCITT Group 3”); *id.* at 29 (same); *id.* at 40 (distinguishing *Yokota* reference as using both standard and modified driver software); Ex. 15 at 18. Infinity described this exclusive use of “generic” software to accomplish the task of printing and scanning as a key part of the invention. Ex. 45 at 9 (“Why is the correct ‘generic’ definition important? Because it establishes an important distinction of the Nachman invention, namely that: **No modification was required[.]**”) (emphasis added).

Third, the claimed “generic send/receive driver communications software” does not control communications between a computer and any just any peripheral; rather only between a computer and *a fax machine*. In that context, the complete set of instructions necessary to print or scan must be provided in the only language fax machines speak—that is, in a standard CCITT/ITU-T facsimile format. *See supra* at IV.B (“facsimile machine”), and *infra* at IV.G (“facsimile signals”).

Thus, a person of ordinary skill in the art would understand “send/receive driver



communications software” to (i) be “software that controls a peripheral,” (ii) “provide[] all instructions necessary to accomplish the tasks of printing from the personal computer to the facsimile machine and/or scanning from the facsimile machine to the personal computer,” and (iii) provide those instructions “in a standard CCITT/ITU-T facsimile format.”

Infinity’s proposed alternative construction both ignores its arguments during prosecution that the claims require that the computer “utilize GENERIC ‘send/receive communications software’ *for accomplishing the task of printing and/or scanning* from the PC to the FAX” and injects the ambiguous adjective “standard” into the construction instead of grounding the construction in something concrete—the CCITT/ITU-T Recommendations.

**E. “Using an Unmodified Standard Protocol for Shifting the Personal Computer to a Connected Mode”**

Term/Phrase	Defendants’ Construction	Plaintiff’s Construction
“using an unmodified standard protocol for shifting the personal computer to a connected mode”  '811, cl. 7	“using a set of instructions, each of which is unmodified and described in a facsimile standard promulgated by the CCITT/ITU-T, to establish a communication link between the personal computer and the facsimile machine”	No construction necessary

Claim 7 of the '811 patent is the only asserted claim that does not require “generic send/receive driver communications software.” Instead, Infinity amended claim 7 to require “using an unmodified standard protocol for shifting the personal computer to a connected mode.” *See* Ex. 1 at C1 at 2:14; *see also* Dkt. 70 at 5-6. Like “generic,” the term “unmodified” does not appear in the specification and was discussed for the first time during reexamination. One of ordinary skill would understand the term to mean “using a set of instructions, each of which is unmodified and described in a facsimile standard promulgated by the CCITT/ITU-T, to establish a communication link between the personal computer and the facsimile machine.”



“Standard protocol” means a facsimile standard promulgated by the CCITT/ITU-T, for reasons similar to those set forth above in Section IV.B (“facsimile machine”). The specification teaches that a “standard protocol” is a facsimile standard (Ex. 1, ’811 patent at 5:47-51) and limits the claimed facsimile machine to either a group I, II, or III facsimile machine (*id.* at 5:17-20), each of which utilizes a CCITT/ITU-T-promulgated standard. During reexamination of the ’811 patent, Infinity repeatedly defined “standard protocol” as a CCITT facsimile protocol. *See, e.g.*, Ex. 16 at 8 (“‘standard protocol’ (i.e., CCITT Fax protocol)”), 25 (“standard protocols (CCITT Fax protocols)”); Ex. 15 at 9 (“use of CCITT Group 1, 2, 3 standard protocol (an ‘unmodified standard protocol’)”); Ex. 38 at 14, 15 (“an unmodified standard protocol - the CCITT FAX protocol”).) The Examiner had the same understanding. *See, e.g.*, Ex. 51 at 4 (“For instance, the fax machine of the ’811 patent is disclosed as being a group I, group II, or group III machine (see column 5: 17-20). These different groups correspond to known standard protocols for fax signal formats established by the CCITT, and therefore, it can be said that a group I, II, or III fax machine utilizes an ‘unmodified standard fax protocol.’”); Ex. 52 at 30-31.

An “unmodified” standard protocol requires that each step of, or instruction in, the protocol follow a CCITT standard. Any deviation would result in a “modified” standard protocol. That is why Infinity distinguished claim 7 from the cited prior art reference, *Kang*, on the ground that *Kang* used a *modified* standard protocol:

With regard to claims 7 and 12, the patent owner has amended each of these claims to recite that the personal computer is shifted to a connected mode ‘using an unmodified standard protocol’ for putting the computer into a mode for sending or receiving digital signals . . . . ***Kang, to the contrary, uses a nonstandard protocol*** (Kang Table 2) to enable communication of information between the facsimile device and the computer.

Ex. 53 at 8, 9, 11 (emphasis added). Infinity stated throughout the reexaminations that the cited prior art deviated from a CCITT standard—and therefore used “modified” standard protocols—by



including specialized firmware on the facsimile machine or custom software on the PC. *See id.* at 9-10; Ex. 15 at 8-10; Ex. 38 at 5. In allowing the claim amendment, the Examiner agreed:

***These amendments to claims 7 and 12 differentiate from Kang since Kang uses a modified standard protocol for shifting a computer into a mode for communicating with a local fax machine.*** In order to shift a computer into different modes of communication with a fax machine, ***Kang includes various control data*** (illustrated in FIG. 3 of Kang) ***that are putatively not associated with a standard facsimile protocol, such as the group I, II, or III protocols.*** Even if Kang's 'image information' shown in FIG. 3 conforms to an unmodified facsimile standard protocol, the inclusion of the control information 311-313 represents a modification to such a standard protocol, and therefore, Kang's shifting of the computer to a connected or off-hook mode is accomplished via a modified standard protocol. For this reason, claims 7-17 are patentable.

Ex. 51 at 8-9 (emphasis added). During the second reexamination, Infinity's expert witness, Dr. Marc Levitt, distinguished claim 7 from the "*Kurosaki*" prior art reference on the same basis: he opined that *Kurosaki*'s protocol is "modified" because it uses modified firmware on the facsimile machine and custom software on the PC "not contemplate[d]" by the "T30 [CCITT] specification." Ex. 54 at ¶¶ 24-26; *see also id.* at ¶¶ 19, 23. Thus, to be within claim 7, each instruction or step in the protocol used to establish communication between the personal computer and the facsimile machine must be described, without modification, in a CCITT/ITU-T facsimile standard.

Finally, "for shifting the personal computer to a connected mode" means that the unmodified standard protocol establishes the communication link between the PC and facsimile machine. This relationship is expressly required by the claim and the specification: "using" the protocol is "for" shifting the PC to a connected mode. Ex. 1 at C1 at 2:14-15; *see also* Ex. 1 at 4:58-64 (the PC "shifts to a receive mode for receiving what appears to the PC to be a facsimile transmission from a 'remote' facsimile machine"). During the first reexamination, Infinity explained that the "modified" protocols of the cited prior art enabled communication between the PC and facsimile machine. Ex. 53 at 11. As the Examiner elaborated, "[i]n other words, the



unmodified standard protocol is ‘used for shifting’ in the sense that data signals to be transmitted or received by the computer are converted to, or otherwise made to conform to, the standard fax protocol upon preparing the computer for image data transmissions to and from a fax machine.”

Ex. 51 at 8.

#### F. The “Isolating” Terms

Term/Phrase	Defendants’ Construction	Plaintiff’s Construction
“by-passing or isolating the facsimile machine and the computer from the public network telephone line” / “both the facsimile machine and [personal] computer isolated from said at least one public network telephone line” ’811, cl. 1, 6, 7, 20	“disconnecting the facsimile machine and the computer from the public telephone network” / “the facsimile machine and the computer having been disconnected from the public telephone network”	No construction necessary or “by-passing or isolating the data flow of the scan data from the public network telephone line”

The term “by-passing or isolating the facsimile machine and the computer from the public network telephone line” in ’811 patent claims 1 and 6 means “disconnecting the facsimile machine and the computer from the public telephone network.” Similarly, the term “both the facsimile machine and [personal] computer isolated from said at least one public network telephone line” in claims 7 and 20 means “the facsimile machine and the computer having been disconnected from the public telephone network.”

The claim language suggests that **both** the facsimile machine and the computer are capable of being connected to a public network telephone line, which is consistent with the conventional operation of a facsimile machine and a computer at the time of the invention. Randolph Dec. at ¶ 71. But, the claim language expressly requires that instead of being connected in a conventional manner, **both** the facsimile machine and the computer must by-pass or be isolated from the public network telephone line. The term “by-pass” never appears in the specification, and “isolates” is



used only once to reference the function of switches, not isolation from the public telephone network. Ex. 1 at 3:15-26. The specification does, however, provide a clear summary of the requirement that **both** the facsimile machine and the computer must be disconnected from the public telephone network. In the “Brief Description of the Invention,” the inventor stated:

The present invention achieves all of the above as well as other objectives through apparatus which is characterized by comprising first switch means capable of selectively coupling a PC modem and a facsimile modem to independent telephone lines when in a non-scanning/printing mode **and for decoupling the PC and facsimile modems from the telephone lines and coupling these modems to one another when placed in a scanning/printing mode.**

Ex. 1 at 1:48-55 (emphasis added). This point is repeated throughout the ’811 patent specification. *Id.* at 5:40-44 (“decoupling the PC and facsimile machine from the telephone lines”), 5:59-63 (“decoupling the PC from the facsimile machine and recoupling the PC and facsimile modems to their associated telephone lines”), 8:30-39 (“operating switch SW2 to decouple the PC and the facsimile machine from their associated telephone lines”), 3:1-10 (“disconnects the PC modem and facsimile machine from the common telephone line.”), Fig. 1.

The Applicant also described the need to disconnect the facsimile machine and the computer during prosecution of the parent ’558 patent:

- “Moving switch SW2 to the dotted position ***disconnects the PC and the fax from telephone lines*** TLL1 and TLL2 respectively.” Ex. 55 at 24 (emphasis added).
- “When the fax machine of the present invention is to cooperate with the PC so as to be utilized as a printer, switch SW2 is operated in the same manner as was described hereinabove when using the fax machine as a scanner, namely that the switch SW2 is set to the dotted line position ***to disconnect the PC and the fax machine from a telephone line*** (or from telephone lines).” Ex. 55 at 27 (emphasis added).
- “It should be noted that ***the present invention firstly disconnects the PC and fax machine from telephone lines before utilization of the fax machine/PC combination***, and there is no suggestion that a ringing signal be applied to both the PC and the fax machine.” Ex. 55 at 30 (emphasis added).



added).

These disclosures confirm that the claim language expressly requires that both the facsimile machine and the computer must be ***disconnected*** from the public telephone network.

Moreover, these disclosures are consistent with definitions of “isolate” that would have been understood by one of ordinary skill in the art:

- “Isolate... [t]o disconnect a circuit or piece of equipment from an electrical supply system.” Ex. 50 (*McGraw-Hill Dictionary of Scientific and Technical Terms* 5th ed. 1994) at 1059.
- “Isolated (1) Physically separated, electrically and mechanically, from all sources of electrical energy.” Ex. 49 (*The IEEE Standard Dictionary of Electrical and Electronics Terms* 6th ed. 1997) at 557.

In fact, one of ordinary skill in the art would have understood that the invention described in the specification of the ’811 patent would be inoperable, as claimed, unless both the facsimile machine and the computer are ***disconnected*** from the public telephone network. Randolph Dec. at ¶ 73.

Infinity’s proposed alternative construction attempts to expand the language in the claims by repeating select portions of the verbatim claim language, but completely changing the object of the phrase. Infinity’s proposal apparently requires only that “the data flow of the scan data” by-pass or be isolated from the public network telephone line, not the facsimile machine and computer. Not only is this proposal inconsistent with the express claim language and repeated statements throughout the intrinsic record, it provides no guidance to the jury as to a meaning of by-pass or isolating, as recited in the claims.

#### **G. The “Facsimile Signals” Terms**

<b>Term/Phrase</b>	<b>Defendants’ Construction</b>	<b>Plaintiff’s Construction</b>
“facsimile signals” / “a facsimile machine signal” / “digital facsimile signals of the scanned document” /	“signals that transmit data that are encoded in accordance with a facsimile standard promulgated by the	No construction necessary.



Term/Phrase	Defendants' Construction	Plaintiff's Construction
“scanned image signals from the facsimile machine” / “transmitted facsimile signals” / “facsimile machine communications signals”  “facsimile format” / “a standard facsimile machine format”  “scanned facsimile machine image data”  ’811, cl. 1, 6, 7, 18 ’423, cl. 2 ’915, cl. 1, 9	CCITT/ITU-T”   “a format that is described by a facsimile standard promulgated by the CCITT/ITU-T”   “data that are encoded in accordance with a facsimile standard promulgated by the CCITT/ITU-T”	

The Patents-in-Suit recite various iterations of terms that include the concepts of “facsimile signals,” a “facsimile format,” or “facsimile ... data.” These terms should be construed, respectively, as signals, a format, or data that are encoded with or described by a CCITT/ITU-T facsimile standard. For the same reasons discussed in section IV.B with respect to “facsimile machine,” one of ordinary skill in the art would understand that the modifier “facsimile” in each term invokes the CCITT/ITU-T facsimile standards.

As explained above, the Patents-in-Suit state that the facsimile machine of the purported invention adheres to one of three different standards of the CCITT/ITU-T. The prosecution history is also informative. In describing the invention, Infinity stated, “The Applicant takes a much simpler approach and **does not provide a fax modem, but uses the existing fax modem** in the computer or externally connected to the computer to send or receive a scanning or printing data transmission, as shown in Applicants Figures 2E, 2I, and 2J.” Ex. 56 at 10 (emphasis in original). One of ordinary skill in the art would understand that an “existing fax modem in [a] computer” is one that complies with a CCITT/ITU-T facsimile standard. Randolph Dec. at ¶ 68. *Perkins* (which



is part of the intrinsic record) notes that CCITT/ITU-T standards “govern” facsimile telecommunications, and the *Newton’s Telecom Dictionary* similarly notes CCITT/ITU-T groups (standards) in its definition of “facsimile equipment.” Ex. 28 at 2:11-12; Ex. 29 at 238. A person of ordinary skill in the art would understand that a supposed fax modem that did not adhere to the CCITT/ITU-T standard would be useless, as it would not be able to communicate with any other facsimile machine.

Infinity purportedly argues for the “plain meaning,” but its infringement contentions reveal that Infinity reads these terms to effectively drop the “facsimile” modifier altogether. For example, with regard to the element “conditioning the computer to receive facsimile signals representing data on a scanned document,” in claim 6 of the ’811 patent, Infinity states, “Facsimile signals representing data on a scanned [sic] may include the following formats: PDF, TIFF, JPEG, XPS, TWAIN, or WIA. Ex. 57 at 25. None of these formats define a “facsimile” format, as one of ordinary skill in the art would understand the term. Randolph Dec. at ¶ 69. As just one example, PDF—short for Portable Document Format—is a file format wholly separate from a “facsimile” format, as any casual computer user knows. *Id.* The Court should reject Infinity’s attempt to drastically broaden the claims of the Patents-in-Suit, and should instead adopt Defendants’ proposed constructions.

#### H. “Using a Standard Protocol of the Facsimile Machine”

Term/Phrase	Defendants’ Construction	Plaintiff’s Construction
“using a standard protocol of the facsimile machine” ’915, cl. 1 & 9	“using a set of instructions that are described by a facsimile standard promulgated by the CCITT/ITU-T”	No construction necessary or “using a standard set of instructions that are supported by the facsimile machine”

Both independent asserted claims of the ’915 patent recite the step of “using a standard protocol of the facsimile machine.” This term should be construed as “using a set of instructions



that are described by a facsimile standard promulgated by the CCITT/ITU-T” for reasons similar to those presented above in sections IV.B (“facsimile machine”) and IV.E (“using an unmodified standard protocol for shifting the personal computer to a connected mode”).

In particular, a person of skill in the art would understand a “facsimile machine” to be “a device that transmits scanned information, or receives information for printing, only in compliance with a CCITT/ITU-T facsimile standard.” *See supra* at section IV.B. Thus, a “standard protocol” of such a device would be the protocols (*i.e.*, sets of instructions) that are described in the CCITT/ITU-T standards themselves. Indeed, during reexamination of the ’915 patent, Infinity equated a “standard protocol” with a CCITT/ITU-T facsimile protocol. Ex. 66 at 8 (“[*Kochis* ’458] does use a ‘standard protocol’ (*i.e.*, CCITT Fax protocol). . . .”) & 25 (“Kochis and Yokota both utilize standard protocols (CCITT Fax protocols).”); Ex. 58 at 9 (“Kurosaki’s use of CCITT Group 1, 2, 3 standard protocol (an ‘unmodified standard protocol’). . . .”); *see also supra* at section IV.E.

Infinity’s proposed construction of “using a standard set of instructions that are supported by the facsimile machine” should be rejected. It repeats the term’s ambiguous adjective “standard,” whereas Defendants’ proposed construction grounds this otherwise vague term in something concrete—the CCITT/ITU-T Recommendations—based on the intrinsic record, including Infinity’s clear statements during prosecution.

### I. The “Digital Signals” Terms

Term/Phrase	Defendants’ Construction	Plaintiff’s Construction
“digital signals” / “digital ... signal(s)” ’811, cl. 1, 7, 19, 20 ’423, cl. 1, 2, ’574, cl. 1, 8	“signals that carry data in the form of digits or interval quantities, and not in analog form”	No construction necessary or “binary signals”

Numerous claims of the ’811, ’423, and ’574 patents require “digital signals,” sometimes in the form of “digital image data signals,” “digital image signals,” “digital data signals,” “digital



serial data source signal,” or “digital data source signal.” Defendants’ proposed construction makes clear that digital signals carry data in the form of digits or interval quantities, and not in analog form. This construction is supported by industry definitions, and mandated by the prosecution history of the Patents-in-Suit.

A person of ordinary skill in the art would understand that “digital data” as “data in the form of digits or interval quantities.” Ex. 49 (*The IEEE Standard Dictionary of Electrical and Electronics Terms* 6th ed. 1997) at 287 (defining digital data and explaining that its direct opposite is “analog data”); *see also* Ex. 59 (*A Dictionary of Computing* 4th ed. 1997) at 140 (“[d]igital data uses discrete discontinuous signals to represent its meanings”); Ex. 60 (*IBM Dictionary of Computing* 10th ed. Aug. 1993) at 198 (“digital data” means “[d]ata represented by digits” and “[d]igital signals can be represented as a series of numeric values”).

Consistent with this understanding, during prosecution of the Patents-in-Suit, Infinity distinguished the alleged invention over the cited prior art by arguing that the prior art “accepts standard analog transmission signals not digital signals” as in the invention. Ex. 61 at 12 (emphasis added); *see also* Ex. 62 at 14 (distinguishing the cited prior art device on the ground that it was not “designed to transmit digital signals [but instead] is limited to transferring only analog signals” and “transfers an analog signal, not a digital signal”). When asked by the Examiner “whether the use of the modem 41 with the RJ-11 telephone cable means that the signals transmitted over the cable are ‘analog’ rather than ‘digital,’” Infinity explained that in the alleged invention “the data is always ‘digital’ data.” Ex. 63 at 2.

Infinity’s proposed construction (“binary signals”) is not helpful to a jury. Other than replacing “digital” with “binary,” the construction does little to clarify the claim language, and it ignores several distinguishing remarks Infinity made to the USPTO. In contrast, Defendants’



proposed construction grounds the claim terms in the language of industry-accepted definitions, and is consistent with Infinity's statements made during prosecution of the Patents-in-Suit.

#### J. The "Bidirectional" Terms

Term/Phrase	Defendants' Construction	Plaintiff's Construction
"bi-directional" / "bidirectional"  '811, cl. 1, 2, 6, 7, 18-20 '423, cl. 1, 2, 6 '574, cl. 1, 7, 8 '915, cl. 1, 9	"a pathway that provides for data to flow in two directions between a computer and a facsimile machine to support transmission of scanning and printing signals over the same cable"	No construction necessary

Infinity overcame invalidity rejections by amending the claims during prosecution to require a bi-directional pathway between the computer and facsimile machine, and arguing that this "bi-directional" connection must be used to transmit both scanning and printing signals in both directions over the same cable. That same meaning controls in these litigations.

Every asserted claim requires a "bi-directional" connection or link between the facsimile machine and computer. For example, claim 1 of the '811 patent recites "[a] method of creating a scanning capability from a facsimile machine to a computer, with scanned image digital data signals transmitted through a *bi-directional* connection via a passive link between the facsimile machine and the computer" and "said transmitted digital facsimile signals being received directly into the computer through the *bi-directional* direct connection via the passive link." *See* Ex. 1 ('811 patent) at claim 1 (emphasis added); *see also, e.g.*, Ex. 3 ('574 patent) at claim 1 ("bidirectional passive link"); Ex. 4 ('915 patent) at claim 1 ("bi-directional direct passive link"). The patents' shared specification, however, does not use "bi-directional" or any other similar language. Infinity first introduced this term during prosecution, and gave the term a specific meaning in its statements to the USPTO. Based on that intrinsic evidence, one of ordinary skill in the art would recognize that the term "bi-directional" in the Patents-in-Suit refers to a single



pathway that provides for data to flow in two directions between a computer and a facsimile machine to support transmission of scanning and printing signals over the same cable.

During prosecution of the '811 patent, Infinity amended the claims to add the “bi-directional” term, and argued that this distinguished the claims from the *Simon* prior art, which included single-direction connections. *See* Ex. 36 at 13-16. Infinity argued:

Simon is limited to providing analog data transmission in one direction only, that is, from the PC to the facsimile for printing. Whereas, the Applicant's invention enables a bi-directional direct communication link between the PC and the facsimile machine for both print and scanning signals.

*Id.* at 14 (emphasis in original). This could be “a single a [sic] RS 232, or parallel cable connector to transfer **scanning and printing of** digital data signals over the same connection between a PC and a facsimile machine.” *Id.* at 15 (emphasis in original). *Simon*, in contrast, provided a parallel connection to transfer printing signals between the computer and facsimile machine, and a separate serial connection to transfer scanning signals between them. *Id.* The Examiner therefore withdrew the rejections based on *Simon*, and ultimately allowed the claims. *See* Ex. 64 at 11. Thus, Infinity obtained the patents only by limiting the claims to a *single* “bi-directional” pathway for printing and scanning data.

During the 2013 reexamination, Infinity specified that the claimed “bi-directional” connection or link was not merely *capable* of bi-directional communication, but must actually be *used* for bi-directional communication. Infinity distinguished the '811 patent's claims from the *Kurosaki* prior art reference which, according to Infinity, “use[d] a one way connection for scanning only and a one way connection for broadcasting data over a telephone line for faxing in the other direction.” *See* Ex. 15 at 10. Infinity acknowledged that *Kurosaki* disclosed an RS 232 connection—which is capable of bi-directional communication—but argued that the “Use of RS 232 is not ‘bi-directional.’ No teaching of sending data to the facsimile machine.” Ex. 31 at



Infinity0008779 (emphasis added). Infinity overcame the Examiner’s rejection only by specifically defining “bi-directional,” and disclaiming any broader meaning. *See* Ex. 17.

By defining the “bi-directional” term in the prosecution history to overcome prior art, Infinity disclaimed interpretations that may have otherwise been included in the meaning of that term. *See Omega Eng’g*, 334 F.3d at 1323-24 (finding disavowal of term’s scope over ordinary meaning based on statements applicant made during prosecution to distinguish invention over prior art). For example, an RS-232 cable or parallel cable arguably could be a “bi-directional” connection because both are capable of bi-directional communication. But that interpretation would render the Patents-in-Suit unpatentable over *Simon* and *Kurosaki*, which each teach using an RS-232 and/or parallel cable to communicate between a computer and fax machine, as discussed above. Instead, as Infinity made clear, in the Patents-in-Suit, the cable must actually be “used” for bi-directional communication. *See* Ex. 15 at 10; Ex. 31 at 13. Likewise, two separate connections to communicate between the computer and fax machine, each transmitting data one way, cannot collectively be considered a “bi-directional” connection: that is what *Simon* and *Kurosaki* taught, and what Infinity distinguished. A “single” connection must be used. *See* Ex. 36 at 15. Thus, Defendants’ proposed construction gives “bi-directional” the same meaning Infinity gave it during prosecution and reexamination, and should be adopted.

#### **K. Indefinite Step-Plus-Function Claim Terms**

Eighteen of the 26 asserted method claims include functional claim language that is subject to special rules of construction and validity. These limitations describe functions to be carried out as part of the claimed methods—*e.g.*, undefined “activating,” “conditioning,” and “arranging” elements that allegedly cause a standard facsimile machine or computer to print, scan, or fax—without specifying the actions necessary to accomplish those functions. But Infinity cannot patent every method of using a standard fax machine and computer to scan, print, or fax. Rather, these



are “step-plus-function” terms subject to 35 U.S.C. § 112 ¶ 6 and must be construed to cover only the specific acts disclosed in the specification. However, the common specification of the Patents-in-Suit does not disclose the actions necessary to implement the recited functions, thus rendering the step-plus-function terms indefinite and the associated claims invalid.

### **1. Legal Standard for Functional Claiming**

Under 35 U.S.C. § 112 ¶ 6, a claim limitation “may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.” *See also Greenberg v. Ethicon Endo-Surgery Inc.*, 91 F.3d 1580, 1582 (Fed. Cir. 1996) (“Congress permitted the use of purely functional language in claims, but it limited the breadth of such claim language by restricting its scope to the structure disclosed in the specification and equivalents thereof.”). Claim limitations drafted under § 112 ¶ 6—also known as “means-plus-function” (for apparatus claims) or “step-plus-function” (for method claims) limitations—are limited to the structure or acts that are set forth in the specification and clearly linked to the claimed function. *See Ergo Licensing, LLC v. CareFusion 303, Inc.*, 673 F.3d 1361, 1363 (Fed. Cir. 2012). This compromise makes the claim drafting process easier, but protects the public against overreaching claims that would cover a function regardless of what apparatus or method was used for achieving it. *Function Media, L.L.C. v. Google Inc.*, 708 F.3d 1310, 1319 (Fed. Cir. 2013).

The foundational inquiry is to determine whether § 112 ¶ 6 applies. Where a claim expressly recites the words “means for” or “step for,” § 112 ¶ 6 is presumed to apply; where the claims do not recite those words, § 112 ¶ 6 is presumed not to apply. *See Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1347-49 (Fed. Cir. 2015). But even in the absence of “means for” or “step for,” a patent claim may still be subject to § 112 ¶ 6 if it combines a placeholder or “nonce” term with a functional expression describing what the placeholder does, e.g., “a mechanism for



providing lift.” The presumption is not strong, and is rebuttable.<sup>19</sup> *See Advanced Ground Info Sys. v. Life360, Inc.*, 830 F.3d 1341, 1347 (Fed. Cir. 2016) (presumption may be rebutted “by a preponderance of the evidence [showing] that the claims are to be governed by § 112 ¶ 6”) (citation omitted). The presumption is overcome (and often has been)<sup>20</sup> where—as here—the claim recites a “nonce” or placeholder word for performing a specific function without reciting the particular structure or actions to perform that function. *See Williamson*, 792 F.3d at 1347-48.

Once found to be a means- or step-plus-function claim, claim construction involves a two-step procedure. First, the court must identify the claimed function. *Id.* at 1351; *see also MobileMedia Ideas LLC v. Apple Inc.*, 780 F.3d 1159, 1179 (Fed. Cir. 2015). Second, the court must identify the corresponding action or structure in the written description that performs the claimed function. *Williamson*, 792 F.3d at 1351. Notably, the understanding of a person of ordinary skill in the art does not relieve the patentee of the duty to disclose sufficient actions or structure to support means- or step-plus-function claim terms. *Id.* at 1352; *see also Ibormeith IP, LLC v. Mercedes-Benz USA, LLC*, 732 F.3d 1376, 1379 (Fed. Cir. 2013) (“The price of using this [means-plus-function] form of claim, however, is that the claim be tied to a structure defined with sufficient particularity in the specification.”). If the patentee fails to disclose adequate corresponding actions or structure, the claim is indefinite under Section 112 ¶ 2. *See Williamson*, 792 F.3d at 1352-53.

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<sup>19</sup> Step-plus-function limitations have a similar presumption as means-plus-function limitations. *See Seal-Flex, Inc. v. Athletic Track & Court Constr.*, 172 F.3d 836, 848-49 (Fed. Cir. 1999) (Rader, J., concurring).

<sup>20</sup> *See, e.g., Altech Controls Corp. v. E.I.L. Instruments, Inc.*, No. H-92-3189, 1997 WL 579179, at \*11 (S.D. Tex. June 6, 1997) (“selectively energizing and deenergizing compressors to [perform function]”); *Neurografix v. Siemens Med. Solutions USA, Inc.*, No. 10-CV-1990, 2011 WL 3439324, at \*15 (C.D. Cal. May 5, 2011) (“processing said data representative of anisotropic diffusion to [perform function]”); *Williamson*, 792 F.3d at 1351 (“distributed learning control module”); *Advanced Ground*, 830 F.3d at 1348 (symbol generator); *Media Rights Techs., Inc. v. Capital One Fin. Corp.*, 800 F.3d 1366, 1374 (Fed. Cir. 2015) (compliance mechanism); *Synchronoss Tech., Inc. v. Dropbox, Inc.*, Case No. 16-cv-00119, 2017 WL 6059302, at \*6-\*9, \*12-\*14 (N.D. Cal. Dec. 7, 2017) (user identifier module); *SPEX Techs., Inc. v. Kingston Tech. Corp.*, et al., No. 8:16-cv-07349, 2017 WL 5495149, at \*10 (C.D. Cal. Oct. 18, 2017) (security module); *Huawei Tech. Co. Ltd. v. T-Mobile US, Inc.*, 2017 WL 2691227, \*36-\*37 (E.D. Tex. June 22, 2017) (“selection module” and “key derivation module”); *Intellectual Ventures II LLC v. BITCO General Ins. Corp.*, Case No. 6:15-cv-59, 2016 WL 125594, \*24-\*26 (E.D. Tex. Jan 11, 2016) (“encryption/decryption module”); *Farstone Tech., Inc. v. Apple Inc.*, No. 8:13-cv-1537, 2015 WL 5898273, at \*4 (C.D. Cal. Oct. 8, 2015), *aff’d*, 668 F. App’x 366 (Fed. Cir. 2016) (backup/recovery module); *Genband USA, LLC v. Metaswitch Networks Ltd.*, Case No. 2:14-CV-33, 2015 WL 4722185, at \*12 (E.D. Tex. Aug. 7, 2015) (“echo cancellation module”).



## 2. Analysis of the Functional Claim Language

### a. “activating” claim terms

Independent claims 1 and 7 of the ’574 patent and claim 6 of the ’423 patent each recite “activating” for performing a claimed function:

- ***activating the transfer in a first mode to send*** the digital image scan data from the facsimile machine directly to the computer, or ***activating the transfer in a second mode to receive*** digital image print data directly from the computer; Ex. 3 (’574 Patent) at claim 1;
- ***activating a printer*** operatively connected ***to print a document*** in response to receiving digital image data; Ex. 3 (’574 Patent) at claim 7; and
- ***activating a print or scan mode on the computer and facsimile machine***, said computer or facsimile machine being equipped with send and receive driver communications software enabling the transfer of the digital image data between the computer and the facsimile machine; Ex. 2 (’423 Patent) at claim 6.

In all instances, the claim language identifies the functions but does not recite any actions for performing those functions. Randolph Dec. at ¶¶ 120, 121, 128, 133, 134, 141, 195, 196, 203. Instead, the claims simply use the substitute, placeholder term “activating” in order “to send the digital image scan data from the facsimile machine directly to the computer,” “to receive digital image print data directly from the computer,” “to print a document,” and to put a device in “a print or scan mode.” *Id.* at ¶¶ 120, 133, 195.

To a person of ordinary skill in the art, the term “activating,” does not, by itself, impart any specific actions. *Id.* at ¶¶ 124, 137, 199. Rather, this term simply conveys the notion that some sort of unspecified actions should be taken to achieve the desired result. *Id.* at ¶¶ 124, 137, 199. And the specific actions required to do so would have to be identified for “activating” to convey any particular meaning. *Id.* at ¶¶ 124, 137, 199. As Mr. Randolph’s expert declaration confirms, the term “activating” does not connote any special meaning to a person of ordinary skill in the art, would not be recognized as a sufficiently definite action to perform the claimed function, and does not limit the scope of the claim to any specific actions for performing the claimed function. *Id.* at



¶¶ 120, 133, 195.

Simply disclosing a function without providing some detail about the actions necessary to accomplish that function—as was done here—invokes Section 112 ¶ 6. *Williamson*, 792 F.3d at 1348. There is a distinction between functions and acts: the function corresponds to *what* the element ultimately accomplishes and the acts correspond to *how* that function is accomplished. *See Masco Corp. v. United States*, 303 F.3d 1316, 1327 (Fed. Cir. 2002). In claim 1 of the ’574 patent, the functions are “to send the digital image scan data from the facsimile machine directly to the computer” and “to receive digital image print data directly from the computer,” yet the claim describes only “activating the transfer” to accomplish that function. Similarly, in claim 7 of the ’574 patent, the function is “to print a document,” and in claim 6, the function is “to print or scan,” yet the claims describe only “activating a printer” or “activating a print or scan mode,” respectively, to accomplish those functions. In effect, the claims describe *what* is ultimately accomplished without describing the *how*.

Because the term “activating” invokes Section 112 ¶ 6, the next issue is to determine whether the patent specification discloses sufficient actions to perform the claimed functions. *See MobileMedia*, 780 F.3d at 1179; *see also Ergo Licensing*, 673 F.3d at 1363. But looking to the specification of the Patents-in-Suit provides no further guidance. The specification *never* recites these “activating” phrases—they appear only in the claim language. Ex. 1; Randolph Dec. at ¶¶ 122, 135, 197. At most, the specification discloses some operations of the interface circuit—none of which disclose the actions necessary to accomplish the claimed function. Randolph Dec. at ¶¶ 129, 142, 204. Because neither the specification nor the file history disclose sufficient actions, the phrases ultimately fail to provide a clear-cut indication of the claim scope to a person of ordinary skill in the art. *Id.* at ¶¶ 123, 129, 136, 142, 198, 204.

The patents’ silence as to the actions necessary to accomplish the claimed functions violates a foundational requirement of patent law. *Med. Instrumentation and Diagnostic Corp. v.*



*Elekta AB*, 344 F.3d 1205, 1211 (Fed. Cir. 2003). The Patents-in-Suit attempt to own the results achieved (to send, to receive, to print a document, a scan or print mode) regardless of how those results are achieved. Because the functional claim language is not sufficiently precise and definite, in effect, there are no boundaries to what the claim limitations could cover—potentially covering *all* ways of performing the function—without ever describing those ways in the claims or specification. When read in light of the patents’ specification and prosecution history, “activating” fails to inform, with reasonable certainty, a person of ordinary skill in the art about the scope of the invention. *Id.* at ¶¶ 123, 129, 136, 142, 198, 204. Therefore, ’574 patent claims 1 and 7 (and claims dependent on them), and ’423 patent claim 6 are indefinite and invalid.

**b. “conditioning” claim terms**

Independent claims 1, 6, 18, and 19 of the ’811 patent and independent claims 1 and 2 of the ’423 patent each recite to “condition” or “is conditioned” for performing a claimed function:

- ***conditioning the computer to receive*** digital facsimile signals representing data on a scanned document; Ex. 1 (’811 Patent) at claim 1;
- ***conditioning the facsimile machine to transmit*** digital signals representing data on a scanned document to the computer, Ex. 1 (’811 Patent) at claim 1;
- ***conditioning the computer to receive*** facsimile signals representing data on a scanned document; Ex. 1 (’811 Patent at claim 6;
- ***conditioning the facsimile machine to transmit*** signals representing data on a scanned document to the computer; Ex. 1 (’811 Patent) at claim 6;
- (b) generating a signal to simulate an off-hook condition or connection mode providing a direct path whereby ***the facsimile machine is conditioned to transmit or receive*** signals through the bi-directional direct connection via the passive link to the computer; Ex. 1 (’811 Patent at claim 18;
- (c) generating a facsimile machine signal whereby ***the computer is conditioned to receive*** signals representing data on a scanned document; Ex. 1 (’811 Patent) at claim 18;
- (d) generating a computer signal whereby ***the facsimile machine is conditioned to receive*** signals representing data on a document to be printed; Ex. 1 (’811 Patent) at claim 18];



- (b) generating a signal representative of a facsimile machine communications signals, whereby the *computer is conditioned to transmit* signals representing data on a document to be printed; Ex. 1 ('811 Patent) at claim 19;
- (b) *conditioning the facsimile machine to receive* print image data from the computer; Ex. 2 ('423 Patent) at claim 1;
- (c) *conditioning the computer for initiating transmission* of print image digital data to said facsimile machine of a document to be printed by said facsimile machine; Ex. 2 ('423 Patent) at claim 1;
- *conditioning a scan or print mode* for the facsimile and the computer, as needed; Ex. 2 ('423 Patent) at claim 2;
- *conditioning the transmission* of image data signals between the facsimile machine and the computer for the selected scan or print mode; Ex. 2 ('423 Patent) at claim 2.

In each of the above phrases, the claim language identifies the functions but does not recite any actions for performing those functions. Randolph Dec. at ¶¶ 146, 147, 164. More specifically, the claims simply use the substitute, placeholder terms—either “conditioning” or “is conditioned”—to achieve the functions “to receive [digital] facsimile signals representing data on a scanned document,” “to transmit [digital] signals representing data on a scanned document to the computer,” “to receive print image data from the computer,” “for initiating transmission of print image digital data to said facsimile machine of a document to be printed by said facsimile machine,” “a scan or print mode for the facsimile and the computer, as needed,” “the transmission of image data signals between the facsimile machine and the computer for the selected scan or print mode,” “to transmit or receive signals through the bi-directional direct connection via the passive link,” “to transmit signals representing data on a document to be printed,” “to receive signals representing data on a scanned document,” and “to receive signals representing data on a document to be printed,” respectively.” *Id.* at ¶ 146.

Despite the lack of the “step for” language, each of these claims is nevertheless subject to § 112 ¶ 6 because each merely lists a combination of functional limitations in steps, i.e., limitations



that describe what those steps must ultimately accomplish without describing what acts are used to accomplish that function. *See Williamson*, 792 F.3d at 1348. To a person of ordinary skill in the art, the terms “conditioning” and “is conditioned” do not, by themselves, impart any specific actions. Randolph Dec. at ¶¶ 159, 160. Rather, these terms simply convey the notion that some sort of unspecified actions should be taken to achieve the desired result. *Id.* at ¶¶ 159, 160. And the specific actions required to do so would have to be identified for “conditioning” and “is conditioned” to convey any particular meaning. *Id.* at ¶¶ 159, 160. As Mr. Randolph’s expert declaration confirms, the terms “conditioning” and “is conditioned” do not connote any special meaning to a person of ordinary skill in the art, would not be recognized as a sufficiently definite action to perform the claimed function, and does not limit the scope of the claim to any specific actions for performing the claimed function. *Id.* at ¶ 146. In effect, the claims describe *what* is ultimately accomplished—to send, to receive, to transmit—without describing the *how*.

Because the terms “conditioning” and “is conditioned” invoke Section 112 ¶ 6, the next inquiry is to determine what actions the specification discloses. *See J&M Corp. v. Harley-Davidson, Inc.*, 269 F.3d 1360, 1367 (Fed. Cir. 2001) (finding that the scope of a claim subject to 112 ¶ 6 is “sharply limited” to the steps disclosed in the specification). Yet the specification of the Patents-in-Suit provides no further guidance because it *never* recites these “conditioning” and “is conditioned” phrases—they appear only in the claim language. Randolph Dec. at ¶¶ 148-157. At most, the specification discloses some operations of the interface circuit—none of which disclose the actions necessary to accomplish the claimed functions. *Id.* at ¶ 165. Because the specification does not disclose sufficient actions, the phrases ultimately fail to provide a clear-cut indication of the claim scope to a person of ordinary skill in the art. *Id.* at ¶¶ 158, 165.

If the specification fails to disclose a sufficiently precise description of actions that are clearly linked to performing the claimed functional language, the claim is properly construed to be indefinite. *See, e.g., Blackboard, Inc. v. Desire2Learn Inc.*, 574 F.3d 1371, 1385 (Fed. Cir. 2009);



*Med. Instrumentation*, 344 F.3d at 1218. When read in light of the patent’s specification and prosecution history, “conditioning” and “is conditioned” fail to inform, with reasonable certainty, a person of ordinary skill in the art about the scope of the invention. Randolph Dec. at ¶¶ 158, 165. Therefore, claims 1, 6, 18, and 19 of the ’811 patent (and claims dependent on them) and independent claims 1 and 2 of the ’423 patent (and claims dependent on them) are indefinite and invalid.

**c. “arranging” claim terms**

Independent claims 7 and 20 of the ’811 patent each recite “arranging” for performance of a claimed function:

- *arranging the facsimile machine to be in a digital connection mode*; Ex. 1 (’811 Patent) at claim 7;
- *(b) arranging the facsimile machine to send or receive digital data signals*; Ex. 1 (’811 Patent) at claim 20;

In both instances, the claim language identifies the functions—“to be in a digital connection mode to be in a digital connection mode” and “to send or receive digital data signals,” respectively—but does not recite any actions for performing those functions. Randolph Dec. at ¶¶ 169, 170, 177, 182, 183, 190. Here again, the claims simply use a substitute, placeholder term: “arranging.” *Id.* at ¶¶ 169, 182.

By itself, the term “arranging” imparts no specific actions to a person of ordinary skill in the art. *Id.* at ¶¶ 173, 186. Instead, it conveys the notion that some unspecified actions should be taken to achieve the desired result. *Id.* at ¶¶ 173, 186. But *what* actions required to be taken would have to be identified in order for “arranging” to convey any particular meaning to a person of ordinary skill in the art. *Id.* at ¶¶ 173, 186. As Mr. Randolph opines, the term “arranging” does not connote any special meaning to a person of ordinary skill in the art, would not be recognized as a sufficiently definite action to perform the claimed function, and does not limit the scope of the claim to any specific actions for performing the claimed function. *Id.* at ¶¶ 169, 182. Because



the claims merely disclose a function without describing how it is accomplished, Section 112 ¶ 6 applies. *Williamson*, 792 F.3d at 1348.

Here, as with the other Section 112 ¶ 6 limitations, the specification does not disclose how the facsimile machine is to be “arrang[ed]” “to be in a digital connection mode” or “to send or receive digital data signals.” The “arranging” claim language never appears in the specification, only in the claims themselves. Randolph Dec. at ¶¶ 171, 184. At most, the specification discloses some operations of the interface circuit—none of which disclose the actions necessary to accomplish the claimed function. *Id.* at ¶¶ 178, 191. Because neither the specification nor the file history disclose sufficient actions, the phrases ultimately fail to provide a clear-cut indication of the claim scope to a person of ordinary skill in the art. *Id.* at ¶¶ 172, 178, 185, 191. In sum, when read in light of the patent’s specification and prosecution history, “arranging” fails to inform, with reasonable certainty, a person of ordinary skill in the art about the scope of the invention. *Id.* at ¶¶ 172, 178, 185, 191. Therefore, claims 7 and 20 of the ’811 patent are indefinite and invalid.

## V. CONCLUSION

For the foregoing reasons, Defendants respectfully request that the Court adopt their proposed claim constructions or hold the asserted claims invalid.

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**APPENDIX A**

Text of Asserted Claims, as Amended and Corrected

**U.S. Patent No. 6,894,811**

**Claim 1.** A method of creating a scanning capability from a facsimile machine to a computer, with scanned image digital data signals transmitted through a bi-directional connection via a passive link between the facsimile machine and the computer, comprising the steps of:

by-passing or isolating the facsimile machine and the computer from the public network telephone line;

coupling the facsimile machine to the computer;

conditioning the computer to receive digital facsimile signals representing data on a scanned document; and

conditioning the facsimile machine to transmit digital signals representing data on a scanned document to the computer, said computer being equipped with generic send/receive driver communications software enabling the reception of scanned image signals from the facsimile machine, said transmitted digital facsimile signals being received directly into the computer through the bi-directional direct connection via the passive link, thereafter, said computer processing the received digital facsimile signals of the scanned document as needed.

**Claim 2.** The method of claim 1 to create a scanning capability through a bi-directional direct connection via a passive link between a facsimile machine and a computer by transfer of scanned image data signals from the facsimile machine through said connection, said facsimile machine by-passing or isolated from the public network telephone line, and connected to an appropriate receiving port of a computer or other office product capable of receiving and processing said signals.

**Claim 4.** The method of claim 1, including transferring a digital serial data source signal of a scanned image from said facsimile machine to said computer.

**Claim 6.** A method of creating a scanning capability from a facsimile machine to a computer equipped with a modem, with scanned image data signals transferred through a bi-directional direct connection via a passive link between the facsimile machine and the computer, comprising the steps of:

by-passing or isolating the facsimile machine and the computer from the public network telephone line;

coupling the facsimile to the computer;

conditioning the computer to receive facsimile signals representing data on a scanned document; and

conditioning the facsimile machine to transmit signals representing data on a scanned document to the computer, said computer being equipped with generic send/receive driver communications software enabling the reception of scanned image signals from the facsimile machine, said transmitted facsimile signals being received through the bi-directional direct connection via the passive link to the computer modem, thereafter, said computer processing the



received facsimile signals of the scanned document as needed.

**Claim 7.** A method of making a facsimile machine operable as a scanner and printer for a personal computer, by transferring digital data through a bi-directional direct connection via a passive link between the facsimile machine and the computer, each of the facsimile machine and personal computer for communicating normally using at least one public network telephone line, comprising the steps of:

configuring the facsimile machine to communicate with the personal computer using a digital connector port of the facsimile machine and personal computer, with both the facsimile machine and personal computer isolated from said at least one public network telephone line;

arranging the facsimile machine to be in a digital connection mode; and

using an unmodified standard protocol for shifting the personal computer to a connected mode for sending or receiving digital signals through the bi-directional direct connection via the passive link for scanning and printing between the computer and the facsimile machine, in a facsimile format, using the digital connector port of the personal computer, said computer being equipped with send/receive driver communications software enabling the transfer of the scanning and printing signals between the computer and the facsimile machine.

**Claim 18.** A method of using a facsimile machine with a computer, one or both of which being connected to a telephone line such that said facsimile machine operates as a scanning and printing device for the computer when isolated from the telephone line comprising the steps of:

(a) coupling the facsimile machine to the computer through a bi-directional direct connection via a passive link;

(b) generating a signal to simulate an off-hook condition or connection mode providing a direct path whereby the facsimile machine is conditioned to transmit or receive signals through the bi-directional direction via the passive link to the computer;

(c) generating a facsimile machine signal whereby the computer is conditioned to receive signals representing data on a scanned document; and

(d) generating a computer signal whereby the facsimile machine is conditioned to receive signals representing data on a document to be printed;

said computer being equipped with generic send/receive driver communications software enabling the reception of scanned image signals from the facsimile machine or the sending of computer data to the facsimile machine for printing.

**Claim 19.** A method of using a facsimile machine with a computer, one or both of which being connected to a telephone line such that said facsimile machine operates as a printing device for the computer when isolated from the telephone line, comprising the steps of:

(a) coupling the facsimile machine to the computer through a bi-directional direct connection via a passive link, which enables transfer of digital image signals in both directions;

(b) generating a signal representative of a facsimile machine communications signals, whereby the computer is conditioned to transmit signals representing data on a document to be printed; and

(c) generating a signal to simulate an off-hook condition or connection mode providing a direct path whereby the facsimile machine is conditioned to receive signals through the bi-directional direct connection via the passive link representing data from the computer of a document to be printed, wherein the computer is equipped with generic send/receive driver



communication software to send the digital image signals to the facsimile machine for printing.

**Claim 20.** A method of making a facsimile machine operable as a scanner and printer for a computer, each of the facsimile machine and computer for communicating normally using at least one public network telephone line, comprising the steps of:

(a) configuring the facsimile machine to communicate with the personal computer through a bi-directional direct connection via a passive link between a digital connector port on the facsimile machine and a digital connector port on the computer, with both the facsimile machine and computer by-passing or isolated from said at least one public network telephone line;

(b) arranging the facsimile machine to send or receive digital data signals; and

(c) coupling the digital data signals through the bi-directional direct connection via the passive link between the personal computer and the facsimile machine;

said computer being equipped with generic send/receive driver communications software enabling the reception of scanned image signals from the facsimile machine or the sending of computer data to the facsimile machine for printing.

**U.S. Patent No. 7,489,423**

**Claim 1.** A method of transferring digital image data signals between a computer equipped with generic send/receive driver communications software and a facsimile machine to cause said facsimile machine to operate as a printing device, comprising the steps of:

(a) coupling the facsimile machine to the computer through a bi-directional direct connection via a passive link;

(b) conditioning the facsimile machine to receive print image data from the computer;

(c) conditioning the computer for initiating transmission of print image digital data to said facsimile machine of a document to be printed by said facsimile machine;

(d) upon activating the generic send driver communications software of the computer the print image digital data from the computer is transferred without interruption through a receiving port of the facsimile machine, whereby the print image digital signals of the computer are processed by the facsimile machine into signals for printing.

**Claim 2.** A method of connecting the scan or print apparatus of a facsimile machine configuration to a computer, in order to support image data transmissions for scanning or printing between the facsimile machine and the computer, comprising the steps of:

coupling the facsimile machine to the computer through a bi-directional direct connection via a passive link between the facsimile machine and the computer;

conditioning a scan or print mode for the facsimile machine and the computer, as needed;

conditioning the transmission of image data signals between the facsimile machine and the computer for the selected scan or print mode;

said computer being equipped with generic send/receive driver communications software enabling the sending of image data to the facsimile machine for printing or receiving of the scanned facsimile machine image data by the computer for use as needed.

**Claim 3.** The method of claim 2, including transferring serial or parallel digital signals of scan or print data images between said facsimile machine and said computer as needed.



**Claim 4.** The method of claim 2, including transferring a digital data source signal of a scan or print data image between said facsimile machine and said computer as needed.

**Claim 6.** A method of using a facsimile machine operably linked to a computer to print transmitted digital image data received from a computer by the facsimile machine, or scan digital image data transmitted from the facsimile machine to the computer through a bi-directional direct connection via a passive link, the method comprising:

(a) providing the bi-directional direct connection via a passive link for transfer of digital image data representative of images between the computer and the facsimile machine;

(b) activating a print or scan mode on the computer and facsimile machine, said computer or facsimile machine being equipped with generic send and receive driver communications software enabling the transfer of the digital image data between the computer and the facsimile machine; and

(c) transmitting the digital image data from the computer to the facsimile machine for printing, or transmitting scanned digital image data from the facsimile machine to the computer, over the bi-directional direct connection via the passive link in accordance with an instruction.

**U.S. Patent No. 8,040,574**

**Claim 1.** A Method of using a facsimile machine to facilitate a transfer for digital image scan data or digital image print data between the facsimile machine and the computer, the method comprising:

establishing a communication path between the facsimile machine and the computer using a bidirectional passive link; and

activating the transfer in a first mode to send the digital image scan data from the facsimile machine directly to the computer, or activating the transfer in a second mode to receive digital image print data directly from the computer, the digital image scan data and the digital image print data being communicated over the bi-directional passive link, and the activating being initiated using generic send/receive communications software on the computer; and

in the first mode, storing the digital scan data in a computer readable medium, for use as needed, and in the second mode, printing the digital image print data using a facsimile machine printer device.

**Claim 2.** The Method of claim 1 further including, using a facsimile machine controller to facilitate the transfer of digital image scan data or digital image print data between the facsimile machine and the computer by: activating a controller board in the first mode to send the digital image scan data from the facsimile machine directly to the computer or activating a controller board in the second mode to enable the facsimile machine to receive digital image print data directly from the computer.

**Claim 4.** The method of claim 1, including transferring a digital serial data source signal of a scanned image from said facsimile machine to said computer.

**Claim 5.** The method of claim 1, including transferring scan or print image data via analog, serial or parallel transmission between said facsimile machine and said computer.



**Claim 7.** A method of using a facsimile machine comprising:  
inputting a document image;  
activating the optical scanner operatively connected to said document image input of said facsimile machine configured to generate digital image data as the document image is scanned;  
activating a printer operatively connected to print a document in response to receiving digital image data; and  
activating a switch providing a connection to a port enabling a direct transfer of digital image scan or print data via a passive link bi-directional direct connection between the facsimile machine and the computer;  
whereby, said computer being equipped with generic send receive driver communications software enables the transfer of digital image data between the facsimile machine and the computer through the bi-directional direct connection via the passive link.

**Claim 8.** A method of using a fax machine to transfer digital image data signals via a bi-directional passive link with a computer, for scanning or printing:  
enabling said scan or print digital image data to transfer between said facsimile machine and computer via a passive link bi-directional direct connection;  
said computer being equipped with generic send or receive communications software, such that when activated, scanned document digital image data from the facsimile machine transfers directly to the computer, where it may be stored for use as needed;  
or digital image data sent from the computer to the facsimile machine, is printed out, or stored for use as needed.

**U.S. Patent No. 8,294,915**

**Claim 1.** A method of printing in a facsimile machine when the facsimile machine is connected to a computer by a bi-directional direct passive link, comprising:  
providing a digital serial communications port in the facsimile machine;  
receiving an instruction at the digital serial communications port from the computer to place the facsimile machine into a print mode, the instruction being received using a standard protocol of the facsimile machine; receiving digital image data at the digital serial communications port from the computer via the bi-directional direct passive link, the digital image data being transmitted in a standard facsimile machine format and being representative of content to be printed onto media by the facsimile machine; and  
processing the digital image data substantially as it is received at the digital serial communications port to print the content onto the media at the facsimile machine,  
wherein the receiving the instruction at the digital serial communications port from the computer further comprises receiving the instruction from generic send/receive driver communications software.

**Claim 6.** The method of claim 1, wherein the receiving digital image data at the digital serial communications port further comprises receiving the digital image data from the send/receive driver software.

**Claim 7.** The method of claim 1, further comprising processing the digital image data at a print driver of the facsimile machine substantially as it is received at the digital serial



communications port.

**Claim 8.** The method of claim 1, further comprising initiating the printing at the facsimile machine.

**Claim 9.** A method of scanning in a facsimile machine when the facsimile machine is connected to a computer by a bi-directional direct passive link, comprising:  
providing a digital serial communications port in the facsimile machine;  
receiving an instruction at the digital serial communications port from the computer to place the facsimile machine into a scanning mode, the instruction being received using a standard protocol of the facsimile machine; scanning content from media provided within the facsimile machine to create digital image data representative of the content; and  
providing the digital image data substantially as it is created to the digital serial communications port for communication to the computer via the bi-directional direct passive link, the digital image data being transmitted in a standard facsimile machine format,  
wherein the receiving the instruction at the digital serial communications port from the computer further comprises receiving the instruction from generic send/receive driver communications software.

**Claim 14.** The method of claim 9, wherein the providing the digital image data to the digital serial communications port further comprises communicating the digital image data to the send/receive driver software.

**Claim 15.** The method of claim 9, further comprising initiating the scanning at the facsimile machine.



**CERTIFICATE OF SERVICE**

I hereby certify that the foregoing was filed on this 31st day of August, 2018, using the electronic case filing (CM/ECF) for the U.S. District Court for the Eastern District of Pennsylvania, which will send notification of such filing to all counsel of record.

/s/Jacob A. Snodgrass

Jacob A. Snodgrass